EXHIBIT G

THE FUTURE OF DIGITAL ASSETS: MEASURING THE REGULATORY GAPS IN THE DIGITAL ASSET MARKETS

JOINT HEARING

BEFORE THE

SUBCOMMITTEE ON DIGITAL ASSETS,
FINANCIAL TECHNOLOGY,
AND INCLUSION

OF THE

COMMITTEE ON FINANCIAL SERVICES

AND THE

SUBCOMMITTEE ON COMMODITY MARKETS,
DIGITAL ASSETS, AND
RURAL DEVELOPMENT

OF THE

COMMITTEE ON AGRICULTURE

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THE FUTURE OF DIGITAL ASSETS: MEASURING THE REGULATORY GAPS IN THE DIGITAL ASSET MARKETS

Wednesday, May 10, 2023

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON DIGITAL ASSETS,
FINANCIAL TECHNOLOGY, AND INCLUSION,
COMMITTEE ON FINANCIAL SERVICES,
JOINT WITH THE
SUBCOMMITTEE ON COMMODITY MARKETS,
DIGITAL ASSETS, AND RURAL DEVELOPMENT,
COMMITTEE ON AGRICULTURE,
Washington, D.C.

The subcommittees met, pursuant to notice at 9:30 a.m., in room 1100, Longworth House Office Building, Hon. French Hill [chairman of the Subcommittee on Digital Assets, Financial Technology, and Inclusion] presiding.

Members present from the Committee on Financial Services [Subcommittee on Digital Assets, Financial Technology, and Inclusion]: Representatives Hill, Lucas, Davidson, Rose, Steil, Timmons, Flood, Houchin; Lynch, Foster, Torres, Sherman, Green, Casten, and Nickel.

Members present from the Committee on Agriculture [Subcommittee on Commodity Markets, Digital Assets, and Rural Development]: Representatives Johnson, Rose, Molinaro, Nunn; Caraveo, Davis of North Carolina, Salinas, Perez, Budzinski, Jackson of Illinois, Casar, and Craig.

Ex officio present from the Committee on Financial Services: Chairman Patrick McHenry and Ranking Member Maxine Waters.

Ex officio present from the Committee on Agriculture: Chairman Glenn Thompson and Ranking Member David Scott.

Chairman HILL. Good morning. The subcommittees will come to order. Welcome to the historic Ways and Means Committee room, and for the Members here not on the Ways and Means Committee, now you see how the other half of Congress lives.

Pursuant to an agreement by the chairmen and the ranking members of the Committees on Financial Services and Agriculture, this joint subcommittee hearing will come to order.

The agreement provides that today's hearing will be in accordance with the committee rules for the Committee on Financial Services. However, for the purposes of recognition for opening statements and for questioning, I will recognize first the Commodity Markets, Digital Assets, and Rural Development sub-

committee chairman and ranking member, and then proceed to recognize myself and Mr. Lynch, then the chairman and ranking member of the full Agriculture Committee, and lastly, the chairman and ranking member of the full Financial Services Committee.

From there, the questioning will alternate between Republican and Democratic members of the subcommittees, with the members on the Commodity Markets, Digital Assets, and Rural Development Subcommittee recognized first, and then the members of the Digital Assets, Financial Technology, and Inclusion Subcommittee. We will then proceed in order of seniority.

Without objection, the Chair is authorized to declare a recess of the subcommittees at any time.

Today's hearing is entitled, "The Future of Digital Assets: Measuring the Regulatory Gaps in the Digital Asset Markets." I will note at the outset that this hearing has a hard stop at 1:00 p.m., which we will strictly observe.

With that, I will now recognize the gentleman from South Dakota, the Chair of the Subcommittee on Commodity Markets, Digital Assets, and Rural Development, Mr. Johnson, for 4 minutes.

Chairman JOHNSON. Mr. Hill, thank you, and it is historic. There are not very many times that we do things together like this in this town, but I think this is altogether appropriate. And you are right, this is an august hearing room, there is no question.

Frankly, if we are going to get the kinds of progress that we need to get, we are going to have to do it working together. And I think our committees have been working together for weeks and months now trying to make sure that we bring certainty and sensible compliance to the digital asset space. We know that digital assets and blockchain technology hold real promise, from facilitating payments to increasing data privacy and managing supply chain logistics. These networks represent a new way for individuals, a new freedom for them to make better business decisions. However, current Federal laws and regulations provide few rules of the road for those who want to engage with those emerging technologies. I think all of us know the current uncertainty does not serve us well, and it doesn't serve the marketplace well.

The CFTC and the SEC continue to debate whether certain digital assets or securities or commodities—those conflicting enforcement decisions create further confusion in the industry and the market. And I thought hearing folks today and their pre-filed testimony did a good job at explaining how problematic that has been. Collaboration between our committees will allow us to answer the important questions that face us. And congressional action is essential to provide clear rules of the road and robust oversight for digital asset market participants and intermediaries. The right policy solution involves both committees, speaking with one voice to appropriately direct the CFTC and the SEC to each focus on what they do best.

Market participants will benefit from the longstanding investor protections in the securities and commodities markets, but they will also benefit from new ideas, new services, and the new opportunities that innovation can bring. Our central question today is how best to promote both advantages. We can do that, and we must. Governments around the world are grappling with these

same questions and they are coming up with answers. One of the pieces of testimony, I think, noted that most of the G20 countries are ahead of us. And in the absence of U.S. leadership, they are creating frameworks and establishing themselves as hubs for the development of the digital asset ecosystem.

Just last month, the European Union approved its Markets in Crypto-Assets (MiCA) regulation, and that really became the first comprehensive framework for digital assets in the world. And as the use of these assets grow, Congress must be clear about how best to regulate this growing sector to ensure the United States remains the leader in financial and technological innovation. Today's hearing will get us quite a bit closer to that goal.

Thank you to each of our witnesses for their willingness to share their expertise, knowledge, and time with us. I look forward to hearing your perspectives about the current regulatory obstacles for the digital asset ecosystem and hearing your thoughts on solutions. And with that, Mr. Chairman, I yield back.

Chairman HILL. The gentleman yields back. Thank you. I now recognize the gentlewoman from Colorado, the ranking member of the Subcommittee on Commodity Markets, Digital Assets, and Rural Development, Ms. Caraveo, for 4 minutes.

Ms. CARAVEO. Thank you, Chairman Hill, and I want to extend my thanks to you, Chairman Johnson, and Ranking Member Lynch for helping bring the Agriculture and the Financial Services Committees together for a joint hearing this morning.

During the recent Agriculture subcommittee hearing on April 27th, we discussed the swap market regulatory gap, avenues to strengthen customer protections, and the need for sufficient resources and funding mechanisms to support these efforts at the CFTC. Any legislation that passes Congress must, of course, address these issues, but the sprawling nature of the digital asset industry also highlights the importance of cross-jurisdictional cooperation and communication. That is why I am happy to be here today with my colleagues from the Financial Services Committee.

The Biden Administration has supported this collaborative approach, too, through issuance of an Executive Order entitled, "Ensuring Responsible Development of Digital Assets," which called on Federal agencies who work jointly to issue reports on a variety of subjects, including a report issued last October reviewing these specific financial stability risks and regulatory gaps. I hope the success of that joint effort will be echoed in today's hearing.

The scale of digital asset activities has increased significantly in recent years, both in terms of market participation and use cases. And while our Federal financial regulators have successfully utilized their existing enforcement and regulatory authorities, we still see charges of rampant and willful noncompliance with some of the biggest market participants. Ultimately, providing regulatory clarity to the digital asset industry must also support a robust enforcement regime and prioritize market participants.

Finally, there have been concerns raised as to whether the Commodity Futures Trading Commission (CFTC) has the resources needed to regulate the digital asset swap market. I would like to note that this is not the first expansion of the Commission's authorities in recent years. Following the Dodd-Frank Act, the Com-

mission successfully wrote and implemented rules that expanded their authorities in the swap market. Further, as the digital asset industry has grown, we have seen the Agency dutifully exercise its enforcement authorities. Yet, if we value increased action in the swap market, we must value those who do the work for the taxpayers. I strongly believe any digital asset legislation passed by Congress must include a funding mechanism for the CFTC.

With that, I would like to thank our witnesses for joining us today. I look forward to our conversation, and I yield back, Mr. Chairman.

Chairman HILL. I thank the gentlewoman, and I now recognize myself for 4 minutes. Again, thank you for joining us today at this historic hearing on digital asset market structure. Like Chairman Johnson, I want to celebrate collaboration on Capitol Hill anytime it happens, so we are grateful to the House Agriculture Committee for partnering with us in this unprecedented joint hearing and working to craft legislation, and to our Democratic colleagues for working with us through today's unusual circumstances in this joint hearing.

What we decided to do in this Congress, this year, will shape whether or not the digital asset ecosystem has the opportunity to thrive here in the United States. But right now, there is not a workable framework in place for digital asset issuers and intermediaries to be regulated effectively by the SEC or the CFTC. I have heard a few members in this room say that the status quo of existing laws is enough, that the crypto firms are just willfully avoiding compliance with the law, and that Republicans somehow are often embarking on a partisan pursuit of sweeping digital asset legislation.

But the reason I know that this can't be a partisan exercise is because my Democratic colleagues have been telling me for months that they support common-sense legislation . For example, just last November, our ranking member of the House Financial Services Committee, Ms. Waters, said, "We need legislative action to ensure that digital asset entities cannot operate in the shadows outside of robust Federal oversight and clear rules of the road." Ranking Member Waters went on to say, "It is clear that there are major consequences when cryptocurrency entities operate without robust Federal oversight and protections for customers." And my good friend from Massachusetts, the ranking member of our subcommittee, Mr. Lynch, said, "While FTX may be headquartered offshore, the circumstances surrounding its collapse strongly point to the need for developing thoughtful regulation to protect U.S. investors."

That is a great point. And since we can't trust offshore crypto exchanges, as we saw with the FTX collapse, we want to work on legislation here in the United States for U.S. companies that will follow the rules, protect U.S. investors and consumers, and prevent future chaotic things like FTX from happening again. However, if we fail to provide a functional framework for digital assets in this country, all we are doing is forcing this activity to happen in an offshore exchange, rather than in a nicely-innovative, properly-regulated U.S. working environment. And that will only hurt U.S. investors, innovators, and consumers.

Remember, this committee worked in a nonpartisan way to have Sam Bankman-Fried testify last December before he was arrested in the Bahamas. It wasn't our decision to cancel his appearance, but the bankruptcy process will take a long time and his criminal trial in October could even be delayed. And as long as FTX remains an ongoing issue for the committee, I want to reiterate our commitment on behalf of House Republicans to work with the Minority to make sure that whole situation is investigated and that he is held accountable.

However, we can't lose sight of why both Democrats and Republicans have been calling for legislation for months. There is nothing partisan about that. To quote Senator Gillibrand, "Establishing a regulatory framework that spurs innovation, develops clear standards, develops appropriate jurisdictional boundaries, and protects consumers." That is why we are here today. No one here is claiming that crypto should be exempt from rules or that we should create an entirely new regime for it. Instead, we are trying to follow the principle of same risk, same regulation to amend current law to establish a functional regulatory environment. I think the CFTC and the SEC and our consumers will benefit. And I look forward to our discussion today, and I yield back.

The gentleman from Massachusetts, the distinguished ranking member of the Subcommittee on Digital Assets, Financial Technology, and Inclusion, Mr. Lynch, is recognized for 4 minutes.

Mr. LYNCH. Thank you, Mr. Chairman. I would like to also welcome our Agriculture Committee colleagues, and to thank this panel for their willingness to help the committee with this work, and Chair Johnson as well. I believe there are benefits to hosting a joint forum like this between members of our subcommittees to consider policy questions around digital assets and allow all stakeholders to have a seat at the table. I do understand jurisdictional questions have been raised at times over whether crypto tokens are securities or commodities, and whether the primary regulator of those tokens should be the SEC or the CFTC.

I worry we might be asking the wrong questions, however, and we risk feeding into industry-fueled narratives about a turf war between these two agencies. The digital assets industry continues to claim that it lacks regulatory clarity, and that its products and technology don't fit into existing regulatory schemes. I believe that industry advocates make these claims because they know that the current prevailing business models for crypto are not compatible with orderly markets, and our investor protection laws.

The problem is not regulatory ambiguity. It is mass noncompliance with existing laws. We are now exploring whether we need a new regulatory structure to cover digital assets, which would likely undermine well-established laws and regulations. I worry that enacting a new law could be viewed as a light touch and could encourage other industries to morph their products so that they can meet the definition of digital assets and thereby avoid long-standing, long-established, investor protection and orderly markets requirements.

I remind my colleagues that the U.S. has a comprehensive and long-standing framework of securities laws and rules designed to protect investors, promote market integrity, and facilitate capital

formation. It is the framework that has sustained massive innovation in our financial system for decades. The SEC has important requirements to protect investors and the markets. These include laws that govern securities, broker-dealers, security exchanges, and clearing and settlement agencies. It requires the companies to provide certain disclosures, segregate customer funds, keep records, protect customers, and a whole host of other requirements. Creating a new carveout for digital assets seems redundant and unnecessary.

I encourage my colleagues to not get lost in the debate over whether individual tokens are securities or commodities. Instead, we should take a step back and examine the intermediaries that facilitate these tokens, such as the exchanges, lenders, and wallet holders. Digital assets companies want to serve multiple functions, but there are clear rules for companies that function as exchanges, broker-dealers, or clearing and settlement agencies. Some digital assets companies try to flout the rules by being all at once. Rather than comply with existing rules, various cryptocurrency firms have engaged in a legal battle against the SEC. The SEC has brought 130 enforcement actions and has prevailed in every single one. Crypto firms often argue that they lack guidance, or that their products aren't what they clearly are.

In closing, I welcome the conversation that explores the potential of these products. But given that the majority of the industry has failed, I find it difficult to understand the benefits without proper regulatory compliance. Creating a separate regulatory regime through legislation is not the answer. However, I look forward to a continued discussion on this topic, and I yield back.

Chairman HILL. I thank the gentleman. I now recognize the gentleman from North Carolina, the Chair of the full Committee on Financial Services, Chairman McHenry, for 1 minute.

Chairman MCHENRY. First, it is wonderful to be on neutral territory before in this little Ways and Means Committee room between the Agriculture Committee and the Financial Services Committee. We want to show our friends on the Ways and Means Committee how two committees can work together and produce a legislative product. But I want to thank the Subcommittee Chairs for working so well together with their ranking members to have this joint subcommittee hearing. The purpose here is to make laws to give assurance to the marketplace and to consumers, to close regulatory gaps, and to make sure that you have like-kind of regulation of new things in our society and the potential they hold. We need to get this right for a couple of reasons: one, to harness innovation and enable consumer protection; and two, to ensure that the CFTC and the SEC will work together to ensure that consumers are protected, unlike what is currently happening.

I look forward to the panel's testimony, and I want to thank the members for joining in, in this little committee room.

Chairman HILL. I thank the chairman for those comments. I now recognize my friend from California, Ms. Waters, the ranking member of the full Committee on Financial Services, for 1 minute.

Ms. WATERS. Thank you very much. Last Congress, I focused the efforts of this committee around addressing problems in the crypto markets after the Biden Administration testified before our com-

mittee about possible bank-like runs of stablecoins. I set about working on a comprehensive set of legislation, jointly with Mr. McHenry, the Treasury, and the Federal Reserve. We made solid progress but didn't quite get there. Treasury and our financial regulators also identified further gaps in oversight in the crypto markets, such as limits in the SEC's authority to go after frauds like FTX even when they operate just off the coast of Florida. These should be bipartisan concerns, and legislation to address them should have a path to the President's desk. I hope this Congress, we can quickly return to developing legislation together. I yield back.

Chairman HILL. I thank the distinguished ranking member.

We now welcome the testimony of our witnesses: Mr. Andrew Durgee, the head of Republic Crypto; Mr. Matthew Kulkin, a partner and the Chair of the Futures and Derivatives Practice of the law firm of Wilmer Cutler Pickering Hale and Dorr, and a previous Director of the CFTC's Division of Swap Dealer and Intermediary Oversight; Mr. Marco Santori, the chief legal officer at Kraken Digital Asset Exchange; Mr. Daniel Schoenberger, the chief legal officer at the Web3 Foundation; the Honorable Timothy Massad, a research fellow at the Harvard Kennedy School, the director of the M–RCBG Digital Assets Policy Project, and a former Chair of the CFTC, from 2014 to 2017; and Mr. Michael Blaugrund, the chief operating officer of the New York Stock Exchange.

We thank each of you for taking the time to be here with us today. You will each be recognized for 5 minutes to give an oral presentation of your testimony. And without objection, your written statements will be made a part of the record.

Mr. Durgee, you are now recognized for 5 minutes.

STATEMENT OF ANDREW DURGEE, EXECUTIVE VICE PRESIDENT, OPENDEAL, INC. D/B/A REPUBLIC

Mr. DURGEE. Thank you, Committee Chairmen McHenry and Thompson, Committee Ranking Members Waters and Scott, Subcommittee Chairmen Hill and Johnson, Subcommittee Ranking Members Lynch and Caraveo, and esteemed members of both committees for the honor of testifying before you today. My name is Andrew Durgee, and I am executive vice president of Republic and co-founder of the blockchain technology business, Republic Crypto. In these capacities, I oversee Republic's strategic vision with respect to Web3, as well as sit on various corporate boards as a fiduciary. And for better or worse, I believe I am the only panelist here who does not happen to be an attorney.

While I am here representing Republic, it is important to note, I also feel that I am here to represent the American people, of which nearly 83 million have or are currently participating within this industry, including millions of them who use the Republic platform. I have been in the blockchain industry for over a decade and have watched the industry grow from concepts and theories to practical deployments. To find this industry now the topic of congressional interest is both a testament to its maturity and the willingness of this committee to strive to continue American innovational dominance. It is not lost on me the amount of work and dedication it takes to bring this many people together to constructively

discuss changes that could impact the financial lives of millions of Americans, and I thank you.

Republic was a spinoff of a prominent investment company called AngelList. With a focus on the JOBS Act as well as the CROWDFUND Act, members of these committees are no rookies when it comes to efforts to drive innovation within our beautiful country, including Chairman McHenry, who introduced the Expanding Access to Capital Act. It was from these efforts that Republic was born, a U.S.-based company that employs over 300 people, which serves U.S. retail investors, and U.S.-accredited investors and institutions alike. We are a living success case from those initiatives, and we are excited to help bring the next wave of American innovation. For those who are not familiar with the JOBS Act and the CROWDFUND Act, they created two new regulatory securities exemptions known as Reg. CF and Reg. A+. These allowed for a novel framework for retail, meaning non-accredited investors to be able to invest in companies prior to an IPO. This was a groundbreaking change from the Securities Act of 1933.

And it finally gave regular citizens the ability to participate in the financial upside of early-stage companies. Regulators pointed to these exemptions as functional for Web3 companies to comply, but they struggle from both a logistical disclosure and an SEC-approval standpoint. The disclosure requirements simply do not work within an industry trying to decentralize itself, for example, once a certain number of investors or token holders are reached, the issuer is then required to register under Section 12(g) of the Exchange Act, inherently limiting access and inclusion from other eager participants. It is nearly impossible for a company to push towards decentralization without triggering this requirement.

The second issue is the SEC's approval process. Republic has attempted to register a Reg. A+ security token with the SEC for the last 3 years, and after 12 turns of that document and countless legal bills, we have still been unable to get approval. In fact, the current Administration has not qualified a single digital asset offering. Thus, the current system is not working as intended. Much of what this committee has discussed and will certainly discuss today is around crypto assets and their speculative form. But it is important to remember that what we are really discussing is a technological innovation, and one of its first use cases that has operative scale just happens to be digital currencies.

We are in the early stages of this technology, and I really want to provide some examples of that. It generally takes about 25 to 30 years for human beings to adopt a new data transfer technology. Radio was invented in 1890, but wasn't commercially available until the 1920s. TV was developed in the 1920s, but wasn't in homes until the 1950s. Email was invented in 1969, but most of you likely didn't have an email address until 1997.

There is one that I really want to focus on, and that is Transmission Control Protocol/Internet Protocol (TCP/IP), which is the Internet for those who don't know, developed as a Defense Advanced Research Projects Agency (DARPA) project in 1970, but it wasn't really commercially accepted until 1995, when it was rolled out with Windows 95. There is another important date, 1983,

which is is when TCP/IP was accepted as the standard protocol for Internet development, 13 years after it was created.

Well, here we are, 13 years after Bitcoin was created, and we are just now starting to talk about standardization. This is not a coincidence. Adoption at this stage is not a technology problem; it is a human conditioning issue. Every 13-year-old in the United States has only existed in a world where Bitcoin has existed, and 3 years from now, every 16-year-old will have only existed in a world where Bitcoin has existed. Sixteen-years-old is an important date because it is generally when someone becomes interested in becoming a developer; they are the adoption layer. We here in this room are the infrastructure layer. It is our responsibility to create an environment where every 13-year-old American has a framework upon which they can build the next world.

Thank you and I look forward to your questions.

[The prepared statement of Mr. Durgee can be found on page 66 of the appendix.]

Chairman HILL. Thank you. The gentleman yields back.

Mr. Kulkin, you are now recognized for 5 minutes.

STATEMENT OF MATTHEW KULKIN, PARTNER AND CHAIR, FUTURES AND DERIVATIVES PRACTICE, WILMER CUTLER PICKERING HALE AND DORR LLP, AND FORMER DIRECTOR, CFTC DIVISION OF SWAP DEALER AND INTERMEDIARY OVERSIGHT

Mr. KULKIN. Thank you, Subcommittee Chairs Johnson and Hill, Subcommittee Ranking Members Lynch and Caraveo, and Financial Services Chairman McHenry and Ranking Member Waters. My name is Matthew Kulkin. I am a partner in the Washington, D.C. office of Wilmer Hale, where I lead our law firm's futures and derivatives practice group. I previously served as the CFTC's Director of the Division of Swap Dealer and Intermediary Oversight, now known as the Market Participants Division, and I commend the subcommittees for working together today to explore potential paths forward for digital asset market regulation. These rules and policies cannot be successfully developed by any individual committee, legislative chamber or regulatory agency.

The views I have shared this morning are my own; they do not represent those of my colleagues, my law firm, our clients, or any other person or organization. Thank you for inviting me to participate today.

I have three points I would like to make. The first is that the largest digital assets that are traded by market size and volume are commodities, and the statutory definition of commodity is intentionally broad. It covers almost all goods and articles, as well as services, rights, and interests in which futures trading takes place. So, products like Bitcoin and Ethereum already have CFTC-registered futures contracts trading on CFTC-registered exchanges. In addition, the CFTC has successfully asserted anti-fraud and anti-manipulation jurisdiction, or its enforcement authority over certain stablecoins, again, as defined by Congress in the Commodity Exchange Act.

My second point is that the current framework limits the CFTC's enforcement authority, solely for fraud and manipulation in the

digital commodity swap market or cash market, and that authority is insufficient to adequately protect customers.

By limiting the CFTC's oversight of commodity swap markets, market participants are not getting the benefit of basic customer protections that the CFTC could provide through registration, regulation, examination, and enforcement. And those authorities already exist in the digital commodity futures markets. I am also talking about things like segregation of customer funds, and rules governing how those funds are held in the event of a bankruptcy.

That brings me to my third point today. Congress should expand the CFTC's role to include regulatory authority over the digital commodity swap markets. Doing so would introduce key features that are found in the futures markets, which have worked well to protect customers for years. In addition, segregation of customer funds, things like financial resource reporting requirements for intermediaries, exchanges conducting real-time surveillance over trading activity, regular examination for compliance with CFTC rules, and, of course, enforcement for noncompliance with these rules.

From 2017 to 2019, I had the privilege of serving as a Division Director at the CFTC. Simply put, I have great confidence in the CFTC's ability to carry out its mission to protect customers and promote the integrity, resilience, and vibrancy of markets. My experience has shown me how the CFTC can register, regulate, examine, and enforce. In fact, I partnered with the National Futures Association, a self-regulatory organization, on the development and implementation of a number of customer protection measures. I saw how the CFTC's enforcement program holds individuals and institutions accountable for misconduct that interferes with market integrity. And importantly, I also worked closely with my colleagues at the SEC, and I saw how the CFTC and the SEC can collaborate in a productive, responsible manner.

In 2010, Congress passed the Dodd-Frank Act. In that law, Congress directed the CFTC to regulate swap markets, and the SEC to regulate security-based swap markets. In the years that followed, the two Commissions adopted several important rules together and coordinated on the implementation of these new frameworks. There are similarities between the implementation of Dodd-Frank for over-the-counter derivatives, and today's discussion regarding the regulation of digital asset markets. In both instances, there is an important leadership role for Congress.

Here, Congress should make clear that the CFTC is the primary regulator for digital commodities, and the SEC for securities. I believe that approach will provide these markets and market participants with a framework that respects existing laws, conventions, and market structures. Congress should build on its precedent in a manner that best protects investors, and at the same time attracts and retains the innovation that has made the U.S. capital markets the deepest, most-transparent, and most-competitive in the world. I thank you for your time, and I will be happy to answer your questions.

[The prepared statement of Mr. Kulkin can be found on page 78 of the appendix.]

Chairman HILL. Thank you, sir.

Mr. Santori, you are now recognized for 5 minutes.

STATEMENT OF MARCO SANTORI, CHIEF LEGAL OFFICER, KRAKEN DIGITAL ASSET EXCHANGE

Mr. SANTORI. Chairman Hill, Chairman Johnson, Ranking Member Lynch, Ranking Member Caraveo, and members of the subcommittees, thank you for the opportunity to testify today. My name is Marco Santori, and I am the chief legal officer of the Kraken Digital Asset Exchange. I was one of the first lawyers practicing in the area of digital asset regulation. I have advised clients in this ecosystem for over a decade, nearly since blockchains were invented. Today, I oversee all legal, regulatory, and policy matters impacting our global business operations. I oversee 50 lawyers and professionals around the world with deep and diverse experience, and public sector and private sector backgrounds.

Kraken was founded over 11 years ago. Since then, we have steadily grown into one of the world's leading global digital asset businesses. We are proud of our roots as a Bitcoin exchange, but we are equally driven by the societal and economic value that is developing well beyond financial services.

Blockchains are transforming the way that we consume goods and services, secure data, and even deal in property rights. Our primary business is operating in-exchange to match buyers and sellers in digital assets. Today, we serve over 10 million customers around the world through a secure and transparent centralized platform. As we have grown, our business has diversified beyond our exchange. We operate the world's leading digital asset index provider which serves some of the largest futures exchanges and asset managers here in the United States. We offer staking and futures trading in eligible jurisdictions. And we have founded a first-of-its-kind, State-chartered, Special Purpose Depository Institution (SPDI) called Kraken Bank.

Today, our global team of over 2,000 professionals is located in the U.S. and across more than 70 countries. We collaborate and advance our mission through contributions from many geographies, professional backgrounds, cultures, ethnicities, and, of course, political viewpoints. The diversity of our team is a competitive strength that aligns our business with the global nature of our markets and the dynamic community of customers and innovators we serve.

Security and customer asset protection has been central to our culture and our business model from our inception. We hold regulatory licenses here in the United States and around the world, including the United Kingdom, the European Union, Canada, and other developed and emerging markets. My team and I are thrilled to operate with a global perspective because many countries are advancing effective, practical, fit-for-purpose rules governing digital asset participants.

Europe and the United Kingdom, for example, have focused on assessing the specific real-world characteristics of digital assets and advancing risk-based rules to regulate them. Although approaches differ by jurisdiction, there is a common thread to these efforts. Instead of forcing new products into old regulatory schemes, they craft more-effective rules from tested principles.

In the United States, however, we face significant regulatory gaps. Those gaps are so stark that they have spawned a seemingly-unending docket of both private and public litigation. This litigation has not protected consumers. This litigation will not protect consumers either.

Congress can fill these gaps with clear mandates: first, a functional standard and process for drawing clear jurisdictional lines for SEC and CFTC oversight; second, a workable registration path for exchanges at each Agency; third, clarification of the role of the CFTC over swap markets; fourth, clear direction for ongoing regulatory cooperation; and finally, workable transitional arrangements to avoid market disruption until then.

Congress, led by these subcommittees, can fill these gaps to improve markets, empower consumers, and ensure the United States participates in the world's next wave of technological innovation. As you have heard from other witnesses today, there is clear precedent for Congress here. Following the 2008 financial crisis, Congress passed Dodd-Frank, which set up lines of demarcation and joint supervision of swaps markets for both the CFTC and the SEC. Today's collaboration across committee members and staff and across party lines demonstrates both the willingness and the ability for Congress to get this right. I look forward to your questions and our discussion. Thank you.

[The prepared statement of Mr. Santori can be found on page 105 of the appendix.]

Chairman HILL. Thank you.

Mr. Schoenberger, you are recognized for 5 minutes.

STATEMENT OF DANIEL SCHOENBERGER, CHIEF LEGAL OFFICER, WEB3 FOUNDATION

Mr. SCHOENBERGER. Chairman McHenry, Chairman Thompson, Chairman Hill, Chairman Johnson, Ranking Member Waters, Ranking Member Scott, Ranking Member Lynch, Ranking Member Caraveo, and other members of the committees, on behalf of the Web3 Foundation and the Polkadot ecosystem, I would like to thank you for the opportunity to testify today regarding blockchain technology and the benefits of Web3.

I am Daniel Schoenberger, the chief legal officer at the Web3 Foundation. I have worked at the intersection of emerging technologies, law, ethics, and public policy for more than 20 years. The Web3 Foundation was formed with the goal of establishing Web3, a new and better Internet infrastructure. It wasn't about building a currency like Bitcoin, or a smart contract platform like Ethereum. It was about giving siloed blockchains the ability to communicate with each other. And to realize this vision, the Polkadot network was built.

Think of Polkadot as the Simple Mail Transfer Protocol (SMTP) of the Internet used to send and receive email, and think of layer one blockchain such as Bitcoin or Ethereum as email providers like Yahoo or Google. Polkadot allows these distinct programs to communicate with a seamless connection and interoperability. Without this infrastructure, this would not be possible. The native token of the Polkadot network is a blockchain-based token known as DOT,—D–O–T—which should be thought of as the orchestrating

tool used to secure and govern Polkadot. To facilitate the creation of this ecosystem, future DOT token was sold in private sales from 2017 to 2019. The foundation treated DOT as a security in accordance with regulation SNT, and the foundation confirmed the identity of the original buyers through Know Your Customer/Anti-Money Laundering (KYC/AML) checks.

After 3 years of engagement with SEC staff, the foundation believes DOT is no longer a security, based on the Howey Test, but it also satisfies the factors indicating the token is less likely to be a security as set out in the Framework for Investment Contract Analysis of Digital Assets, as it was issued by the SEC's Strategic Hub for Innovation and Financial Technology, FinHub. Given those functionalities and properties, the foundation thinks of DOT as merely a coordinating software. The foundation suggests putting DOT in a separate category, for example, the class of utility tokens. The most important regulatory concern for the foundation is the classification of tokens. Both Switzerland and the European Union have created a clear framework distinguishing between payment tokens, security tokens, and utility tokens.

Under the current U.S. regulatory approach, a token is forced to fit into limited categories. However, it is not always clear in which category a token should be placed. As a simple example, the chair I am sitting in could be tokenized. Also, there will be some tokens that will have the characteristics of a particular asset class, and at a time in the future will cease to have those characteristics. This is part of the nature and innovation of blockchain technology. Clearly, a legislative process to reevaluate a token is necessary. The SEC staff has already outlined a path to evaluate the status of a digital token. The foundation suggests that Congress establish a procedure through legislation to authorize regulators to reevaluate the status of tokens.

Let me be very clear: If a token is used for fundraising purposes, it should be subject to all applicable laws and regulations. However, that same token may serve a functional purpose devoid of speculative investment in the future. We fully support putting into place a legally-binding process of token reclassification. We applaud the subcommittees for undertaking the hard work and deliberation necessary to develop a legislative framework. We would ask you to do so with an understanding and approach that recognizes new technologies. To simply apply existing regulation would be inadequate to truly address this emerging technology.

We look forward to helping the committees develop a comprehensive framework for all token classification in the U.S., and we are confident that with clear statutory guidelines, the U.S. will continue to lead the world in innovation. I look forward to answering your questions. Thank you very much.

[The prepared statement of Mr. Schoenberger can be found on page 113 of the appendix.]

Chairman HILL. Thank you.

Mr. Massad, you are recognized for 5 minutes.

STATEMENT OF THE HONORABLE TIMOTHY MASSAD, RESEARCH FELLOW AND DIRECTOR, DIGITAL ASSETS POLICY PROJECT, HARVARD KENNEDY SCHOOL MOSSAVAR-RAHMANI CENTER FOR BUSINESS AND GOVERNMENT

Mr. MASSAD. Thank you. Chairmen McHenry and Thompson, Subcommittee Chairmen Hill and Johnson, Ranking Members Lynch and Caraveo, and members of the committees and staff, I am honored to be testifying before you today.

Since 2014, when I became Chairman of the CFTC, I have talked about the gap in crypto regulation. And you have heard a lot about it today. Obviously, we don't have a Federal regulator of the swap market in tokens that are not securities, and we have this classification debate, which makes that gap worse. So the question is, how do we fix it? And there are now lots of calls for maybe tinkering with securities laws and definitions, coming up with a new category, and coupling that with giving jurisdiction to the CFTC.

The part that concerns me is the rewriting of the securities laws and creating that new definition, because I think it is likely to generate its own questions of interpretation that may lead to lots of litigation and confusion. I think it may also create unintended loopholes. And frankly, we don't have the information today to know how to classify tokens, to apply the Howey Test.

I think there is another approach, which is that we would pass a law that requires that any trading platform or lending platform that uses or trades Bitcoin or Ethereum has to comply with a set of principles for everything it does for all the tokens on the platform, for all of its activity. And those principles would be the ones with which we are all familiar: protecting customer assets; preventing fraud and manipulation; requiring risk management; requiring reporting; requiring trade transparency; and preventing conflicts of interest, and so forth.

Congress would direct the SEC and the CFTC to develop joint rules implementing those standards, or create a self-regulatory organization (SRO) that would develop those rules and implement and enforce them. I think there are several advantages to this. First, it is simple. The law would give us jurisdiction over all of those platforms that are important, because no platform can exist without trading Bitcoin or Ethereum, without having to rewrite the securities laws. And the principles would, as I say, apply to all activity on those platforms.

Second, it focuses on the core of the problem, which is that over 90 percent of the swap market trading occurs on centralized intermediaries. Simply eliminating wash trading on those platforms would be a big improvement.

Third, it is practical, It would not require bifurcation of the existing market into one platform for trading commodity tokens and one platform for trading security tokens, and it is helpful not to do that, because crypto trading actually occurs in pairs today.

In addition, by using an SRO, we would be able to require the industry to pay a lot of the cost and thereby reduce the Federal budget impact. As I say, the approach would not involve rewriting the securities or commodities laws, and the SEC and the CFTC would retain their existing authority. And the SEC could still bring a case, claiming that a particular token is a security. But if it pre-

vails, the platform would simply have to stop trading that token or move it to a registered platform. The SEC would not be able to shut down the platform as long as it was operating in compliance with these core principles, which ensures that the platforms can continue on a more-responsible basis while these classification issues are resolved. It would also, as I say, provide for some disclosure, which is important for investor protection and to enable us to decide how to classify things. It is an incremental approach, and I think we can build on it. It is also a solution that I think can be bipartisan.

Former SEC Chair Jay Clayton—appointed by President Trump—and I have kind of formulated this. I know he supports it. We also think it is a proposal that people can support regardless of how you value the importance of crypto, whether you are a crypto-enthusiast or a crypto-skeptic. We don't have to debate that, let's just put in place a framework that provides investor protection. Let us move forward and we can always come back and do more.

Finally, let me say there are other gaps in the law, such as in stablecoin regulation. I appreciate the efforts of these committees on that and I am happy to talk about that as well. Thank you.

[The prepared statement of Mr. Massad can be found on page 89 of the appendix.]

Chairman HILL. Thank you very much.

Mr. Blaugrund, you are now recognized for 5 minutes.

STATEMENT OF MICHAEL BLAUGRUND, CHIEF OPERATING OFFICER, NEW YORK STOCK EXCHANGE

Mr. BLAUGRUND. Subcommittee Chairs Hill and Johnson, Subcommittee Ranking Members Lynch and Caraveo, Full Committee Chairs McHenry and Thompson, Full Committee Ranking Members Waters and Scott, and distinguished members of the subcommittees, thank you for the opportunity to testify today on the regulatory future of digital asset markets. My name is Michael Blaugrund, and I am the chief operating officer of the New York Stock Exchange (NYSE).

National securities exchanges, such as the NYSE, serve a fundamental role in the capital markets ecosystem by providing a forum for companies to raise money, as well as a venue for investors to buy and sell the securities of public companies at transparent prices in a fair and orderly manner.

Next week, the NYSE will celebrate the 231st anniversary of the signing of the Buttonwood Agreement, the foundational document that established our exchange. For more than 2 centuries since, we have worked to establish and maintain the United States' position as the envy of the global capital markets. In advancing this position, we focus on utilizing innovative technology to ensure that our nation's vibrant markets remain competitive around the world. I am here today to share some perspective from our experience.

Although technology evolves over time, the obligation to protect investors does not. Whether their trading occurs via open outcry, over telegraph, through pneumatic tubes, or pursuant to complex algorithms, the public rightfully expects that their assets will be protected from fraud, theft, and manipulation. The regulatory

framework governing national securities exchanges brings transparency and a trusted environment for issuers and investors.

As investors increasingly seek exposure to digital assets, it has never been more important to develop a regulatory framework around them that protects the public. This is not unlike the problem that Congress faced nearly 100 years ago that led to the establishment of the Securities Exchange Act to address these same policy objectives. So, how best to protect public investors who seek to engage in the digital assets market? The lesson to be drawn from the more-established markets is clear. Segregation of key functions within the financial markets ecosystem, brokerage, exchange, clearing and custody mitigates inherent conflicts of interest, promotes transparency, and facilitates competition among service providers. This, in turn, benefits investors and results in a more fair, efficient, and safe environment.

When investors trade on the New York Stock Exchange, they are represented by registered broker-dealers whose trades are cleared and settled by registered clearing houses, whose assets are held by registered bankruptcy remote custodians. Investors have recourse if they are harmed by any of their service providers, and multilateral clearing reduces counterparty risk.

By comparison, some current-day digital asset trading models, as witnessed with the collapse of FTX, commingled assumptions in a way that raises serious questions of risk management, financial resources, and investor protection. We believe that if investors could trade digital assets in a similarly-regulated exchange environment, many of the problems we have seen in the last year would not have occurred.

Competition among securities and commodities exchanges is fierce, and new entrants are a regular occurrence. It is a well-established process to launch a registered exchange, whether one with a unique listing concept, a unique trading protocol, unique operational features, or a unique market segment. To date, however, we have not seen a digital asset trading platform follow this well-worn path. There is a dissonance between much of the current digital asset industry's practice and the standards of investor protection established under the law and regulation for traditional markets. Some have argued that the rules and regulations should be relaxed to accommodate current crypto practice, while others have asserted that the market for digital assets must adapt to existing standards. Congress can determine its preferred course of action. It is our belief, however, that the exchange regulatory framework represents an established and well-known foundation that can be adjusted to accommodate the marketplace for digital assets.

In this regard, there are several steps that can be taken by government agencies that would facilitate practical oversight for digital assets. First, provide a tailored registration process for investment contract tokens. Second, replace the temporary SEC conditions for Special Purpose Broker-Dealers (SPBDs) to custody digital assets with a more-permanent solution. Third, permit adjustments to applicable rules of national securities exchanges and clearing houses support securities or other digital assets that are not considered national market system securities. And fourth, evaluate the potential for dual registration or substituted compliance between

SEC and CFTC regimes. Coordination between the two agencies would work to mitigate the costs, burdens, and uncertainty that can arise when more than one regulatory regime is implicated.

American capital markets have long benefited from evolving within the parameters of well-established rules. Our experience over the past 231 years is a testament to the ability of market participants to promote investor protections while adapting to technological innovation. Thank you, and I look forward to your questions.

[The prepared statement of Mr. Blaugrund can be found on page 62 of the appendix.]

Chairman HILL. We appreciate our panel's testimony. We will now turn to our Member questions. And I recognize the Chair of the Subcommittee on Commodity Markets, Digital Assets, and Rural Development, Mr. Johnson, for 5 minutes.

Chairman JOHNSON. I know this town loves kicking the can down the path. But there are times where it is just clear even to Congress that action is appropriate and needed. Mr. Durgee, I was so grateful for you to point out that a 13-year-old has only grown up in the Bitcoin era. We have learned a lot during that time.

And, in fact, every single witness that we have today, and every single witness we have had before our Subcommittee on Digital Assets have all said that there is a lack of clarity within existing law that is holding back innovation in the marketplace. It is holding back America's ability to be competitive in this development space. And it is not properly protecting consumers and the broader marketplace. And so, we get to a point where we know that action is appropriate, I think the contours of what that looks like are beginning to come into focus, thank goodness.

But I want to hone in on one of these central questions. And I will come to you, Mr. Kulkin. We know that one of the legs of the Howey Test is about whether or not a centralized group of decision-makers has a substantial impact on the value of that thing. If they do, it is highly likely to be a security.

In Mr. Schoenberger's testimony, he talked about the multi-year process that Polkadot went through to be more decentralized. Why is that an important characteristic of when something can go from being a security to becoming a commodity?

Mr. KULKIN. Chairman Johnson, thank you for the question. The Howey Test really looks at the issue or sale of a security, so you are thinking about it at the moment that the product is put out for investors. I would distinguish that from trading down the road after it has been put out, where you don't necessarily have the expectation of profits based on the efforts of others. And it becomes more fungible or I might even say more commoditized. And then, the trading in that market, in the secondary market looks a lot more like a commodity as defined by Congress.

Chairman JOHNSON. And we are looking to try to help guide the SEC and the CFTC as they try to determine how to apply something like the Howey Test to this question of decentralization, are there particular factors we should look toward? Are there particular triggers?

Mr. KULKIN. We know that it is substantial, that it is sufficiently commoditized. For starters, we can look at where derivatives mar-

kets already exist. If there are futures contracts that have been certified by exchanges at the CFTC, and we have people hedging risk on the commodity, that is a pretty good indicator that something has been commoditized.

The other way to look at it is to look at the action of the Commission as a body, as opposed to any individual Chair or Commissioner or speech or staff statement. In this case, we have seen the CFTC as a body take action against certain stablecoins in the swap market where they have identified fraud or manipulation that has impacted others. So, I sort of look at those sources first to determine whether or not something is a commodity.

Chairman JOHNSON. Yes, looking to the regulators for an environment that seemingly everybody acknowledges doesn't have proper clarity for the regulators or the marketplace, it seems like we could help them better ascertain, when does that trigger hit? We are not providing a lot of guidance. Is there anything else you could say to help us find a way forward?

Mr. KULKIN. No, I think that inflection point is a challenging one. I will admit that. And it is sort of easy to draw out the two ends of the spectrum in terms of a token being offered to raise capital versus something that is highly-commoditized and hedged to the derivatives markets, but that point in between is a challenging one to draw a very bright line.

Chairman JOHNSON. As you noted in your testimony, 71 percent of the market capitalization in this area are products for which it seems like there is broad agreement that they are commodities. So, the CFTC is generally the cop on this beat, but for swap market, you noted in your testimony that you are not suggesting the CFTC should have broad swap market enforcement authority everywhere, but just looking at digital assets because they are different. How are they different?

Mr. KULKIN. They are different in a couple of ways. And if I could, Ranking Member Caraveo pointed this out at the last subcommittee hearing that many of these digital commodities have a very strong retail component. That is different than soybeans or oil or interest rates. We have a very strong retail market here that needs the benefits of customer protection. The other reason is that it is new. And the other commodities that I just used as an example have years or decades or generations of existing swap market regulation, whereas digital commodities do not.

Chairman HILL. Thank you very much. The gentleman yields back. I now recognize the ranking member of the Subcommittee on Commodity Markets, Digital Assets, and Rural Development, Ms. Caraveo, for 5 minutes.

Ms. CARAVEO. Thank you, Mr. Chairman. And thank you again to our panel for being here this morning and for your testimony. A common argument, which I touched upon in my testimony, is a concern about the CFTC's relative size, compared to other Federal financial regulators, and the impact that may have on the ability of the Commission to engage in robust enforcement.

Mr. Massad, you were the Chair of the CFTC at a time when the Agency was implementing Dodd-Frank, which provided the Commission with additional regulatory authority over the swap mar-

kets. Were there similar concerns at that time for the CFTC's ability to oversee those swap markets?

Mr. MASSAD. Absolutely. It is not possible for the CFTC, or frankly, any agency, to suddenly take on a whole new area of jurisdiction without additional resources. In the case of the swap market, we did the best we could. But we were cutting a lot of other activities that we should have been, I think, spending more on, oversight of a lot of the existing market, the existing infrastructure. It is as if you all decided, you know what? Let's have the Capitol Police not just do the Capitol, but all of the airports around Washington, but let's not give them any more resources. It just doesn't work.

Ms. CARAVEO. Thank you. I think that is an important issue to point out, especially as we are facing potential cuts across-the-board to many agencies. To follow up, I also just briefly wanted to touch on the theme of today's hearing, which is cross-jurisdictional cooperation and collaboration. Sir, for you again, what are some measures that can be taken to ensure that the CFTC, the SEC, Treasury, and other financial regulators work cooperatively to further industry compliance?

Mr. MASSAD. Excellent question, Congresswoman. Again, I think the approach I have suggested would require Congress to effectively say that the CFTC and the SEC have to come up with some joint rules or create the SRO to do it, give them a deadline, and that would basically force the agencies to do it. I think, again, that is a better approach than trying to rewrite the securities laws to create this new definition.

And I would take issue with a lot of the comments that have been made about the indicators. There was a comment earlier about the fact that if something is commoditized, that means it is not a security. No, it doesn't. You can have a futures contract, something that is therefore a commodity, but it is still a security. We have futures contracts on Tether; that makes it a commodity.

Now, most of us may not think Tether is a security because it doesn't pay interest, and we would like to see it regulated as a banking product. If it suddenly paid interest, it would be a security. There is a group of people running Tether and profiting from Tether. But the fact that those futures contracts are traded on Tether doesn't remove it from being a security.

Ms. CARAVEO. Thank you. I appreciate those comments.

And I yield back, Mr. Chairman.

Chairman HILL. I thank the gentlewoman from Colorado.

I now recognize myself for 5 minutes for questions.

Again, I appreciate the panel. And I really appreciate Mr. Durgee commenting about the progression of technology and its adaptation by the American people. I thought that was a good perspective, because sometimes we are lost in this debate here about the blockchain and distributed ledger technology, and we forget that it is a technology, and we are off chasing the rabbit of a particular digital asset or commodity. I think you make a good point. And I will remind my colleagues that in 1996, Congress passed a resolution that said, we are not going to tax the Internet, we are not going to overregulate the Internet, we are going to let this technology progress and we are going to tax and regulate and consider

things on what people do with the Internet as a technology, and I think that has created 25 years of amazing economic growth as a result of that forward-thinking consideration. So, I think that is the spirit in which we work today.

The SEC disclosure regime is designed to provide reasonable investors with information needed to make informed investment decisions. Thus, if the existing disclosure regime for digital assets isn't producing that kind of result, then the ultimate purpose of the U.S. securities laws is, in fact, not being met from an investor protection/capital formation point of view. Current disclosure requirements, however, do not cover a number of the features unique to digital assets that would undoubtedly be considered important to any potential purchaser.

Mr. Santori, what are some of the features of digital assets that are not contemplated in the existing securities disclosure regime?

Mr. SANTORI. Thank you for the question, Mr. Chairman. First of all, we agree that the existing disclosure regime does not contemplate most of the characteristics of digital assets that make them rewarding for users. But it also doesn't account for the characteristics of digital assets that can make them risky for users, and that is where the primary gaps exist today. Some of the elements of digital assets that users want to know about, and indeed the people in this room are likely to ask about if they were to ever use digital assets, include the number of nodes operating on the network, how many developers are actually developing on this network, whether these developers are associated or whether they are operating independently, and where those nodes operate from? These are highly-technical igital assets-specific characteristics that, frankly, I could probably list for well in excess of my time or your time, Chairman Hill.

Chairman HILL. I think it would be useful if you expanded on that in writing, and just talked now about those specific disclosure gaps. I think that would be helpful to me.

Mr. Kulkin, to the extent a digital asset project is sufficiently decentralized, and there is not an issuer who disclosed this info, such as Bitcoin or Ether, how could an intermediary provide disclosure to investors?

Mr. KULKIN. Chairman Hill, there are a couple of pieces to that answer. First, for the intermediary, there can be disclosure to the customer about how the intermediary conducts its business. And on the product side, and I look at the CFTC's model for futures and swaps right now where an exchange needs to certify the product to the CFTC, provide commercial specs, details about the product, explain how it is not readily susceptible to manipulation, and how the financial integrity of the product is protected. There is a model there that can be used, but maybe at its core, disclosure is only as good as it is accurate. So, it has to be policed for fraud.

Chairman HILL. In this regard, SEC Commissioner Peirce proposed a disclosure framework in her safe harbor proposal that would have accounted for some of these differences. The framework would include disclosures related to source code, token supply, governance mechanisms, and other aspects unique to digital assets.

Mr. Santori, do you think Commissioner Peirce's approach would be a workable one, based on our conversation?

Mr. SANTORI. Thank you for the question, Chairman Hill. I do. I think Commissioner Peirce's approach is thoughtful, and it is well-tailored to the risks and the rewards. I think Congress has tremendous discretion in this regard. But Commissioner Peirce's proposal would be light-years ahead of what we have today in terms of protecting consumers and allowing us as a global business to continue to plan to invest here in the United States.

Chairman HILL. Thank you. I think an important concept, Mr. Schoenberger, that you raised was token reclassification, and I think that is at the heart of this issue no matter whether you are taking Tim's approach or somebody else's approach. And I think if each of you would submit for the record your ideas on how one thinks about that idea of token reclassification, that would be helpful.

With that, I yield back. And I now recognize the ranking member of the Digital Assets, Financial Technology, and Inclusion Subcommittee, Mr. Lynch, for 5 minutes.

Mr. LYNCH. Thank you, Mr. Chairman. And Mr. Massad and Mr. Blaugrund, I was heartened by your testimony. And I offer my cooperation, Mr. Massad, with some of the ideas you have talked about with former Chair Clayton, and I would love to be part of that conversation.

The U.S. financial system is indeed, as a number of you have said, the envy of the world and a source of strength, not only economically, but in international relations, and in the geopolitical sphere. But it is built on trust, right? It is built on trust at its very core. And every time a crypto firm explodes, whether that is FTX or Terra or Voyager Digital or Genesis or Silvergate Bank, as a result of those explosions, investors get locked out. And now, we have millions and millions of investors who are trying to get their money back, unsuccessfully so far. We lose trust. We lose trust in that system. And we also know full well that criminal enterprises is a favorite tool of some of these hacking episodes where we see criminal entities, foreign and domestic, actually capitalizing on the anonymity there and using that to further their criminal enterprise. So, you have all that going on. And now, we have an effort by some to import all of that instability, all of that risk, and all of that volatility into the previously-stable financial system.

And as my colleague, Ms. Caraveo, has pointed out, there is a suggestion that, well, we will move this over to the CFTC, which has about 600 employees, and take it away from the SEC, which has about 4,500 employees and has a hard time keeping up.

Mr. Massad, you talked about this a little bit in your opening statement, but what are some of the measures that would be necessary if we were going to try to share jurisdiction here or shift those responsibilities over to the CFTC? And just as a heads-up, Mr. Blaugrund, I want to ask you the same question with respect to the SEC and what that would involve, and what gaps you see in that exercise. But Mr. Massad, go ahead?

Mr. MASSAD. Thank you, Congressman. First, obviously, you cannot expect either Agency to really tackle this market in a more-substantial way, in the way that we need, given the lack of investor protection, without significant resources; it would be very, very significant in the case of the CFTC. I often said to Chair Behnam,

when he was suggesting they get swap market authority, "Be careful what you wish for."

But second, I think it still goes to this question of what exactly would they be getting jurisdiction over? And that is where, again, I would rather see a system where we force the two agencies to work together, to work through an SRO, and that way, the industry would basically have to pay for it.

Mr. LYNCH. Can I ask you on that, on a self-regulatory organization, are there other examples out there that you think would offer instruction?

Mr. MASSAD. Sure. First of all, a self-regulatory organization is something that is closely supervised by the Agencies and doesn't simply go off on its own.

Mr. LYNCH. Right.

Mr. MASSAD. Like FINRA, like the NFBPA, we do have a precedent for jointly recognizing those SROs. And what I am suggesting is sort of going the next step where we say, okay, we are going to have a joint one that is mandated to do this common task, if you will, and develop rules that will then have to be approved by both agencies. But again, I think it is a good interim step forward. It would allow us to bring the sector within regulation, which I think is better than pushing it out.

Mr. LYNCH. I want to let Mr. Blaugrund get in on this a little bit from the SEC perspective.

Mr. BLAUGRUND. Thank you. I would agree that finding a path forward that in some respect renders moot the question of whether a token belongs on one side of a perimeter or the other seems like a sensible path. With respect to the process of doing that, we think potentially dual registration of exchanges or broker-dealers would allow for, for example, the National Securities Exchange that decides to trade digital assets, to also trade Bitcoin and Ether, if those are determined not to be securities. That would be essential, as those are, as was noted, the lion's share of the market activity today.

Mr. LYNCH. Thank you, Mr. Chairman. I appreciate your courtesy, and I yield back.

Chairman HILL. The gentleman yields back. I now recognize the Chair of the full Committee on Agriculture, Mr. Thompson, for 5 minutes.

Chairman THOMPSON. Mr. Chairman, thank you so much, and thank you to each of the witnesses for being here for this joint hearing. I want to echo my fellow colleagues' comments and thank our members and witnesses for being here today. When Chairman McHenry and I first met to discuss the digital assets framework, we set our eyes to a bold plan. We sought to put forward the best policies we could by developing them together.

While both of our committees have been considering digital assets for several years, for the past few months, members of both committees have engaged in robust and collaborative debate and education on the current securities and commodities laws and regulations. This joint hearing is a culmination of those events which have shed light on a couple of key points, including that the current process to determine if a digital asset is a security or not is unclear, unworkable, and impractical.

The CFTC lacks the essential regulatory authority over retail-serving intermediaries and the digital commodity swap markets, and the treatment of customer assets held by intermediaries needs to be strengthened. And I am proud of the thoughtful approach that members of the Agriculture Committee have taken in considering these questions thus far, and I look forward to the work ahead with our Financial Services Committee partners.

It is that thoughtful curiosity that makes for the best regulation in the end, and I hope we are able to work together in a bipartisan manner on substantive legislation to address the issues that are being discussed today. Our committees have an historic opportunity to work together to create a comprehensive digital assets market framework that will provide a pathway for developers and users to engage with digital assets in a safe, compliant, and, quite frankly, productive manner.

The first question I have is for Mr. Kulkin. Mr. Kulkin, Mr. Massad suggests that the CFTC and SEC should establish a joint SRO to regulate pursuant to core principles established by Congress. Do you think the CFTC/SEC joint SRO construct is an efficient, effective, and practical solution?

Mr. KULKIN. Thank you for the question, Mr. Chairman. And I agree with a lot of the diagnosis that Mr. Massad has offered. But I worry that creating a new SRO from scratch would take time, so I don't know. I think about this in terms of incremental progress, and I don't know that we need to recreate the wheel here. I noted in my opening statement that more than 70 percent of digital commodities currently being traded are commodities, so by expanding the CFTC's authority beyond just enforcement authority, which is reactionary to regulatory authority, and requiring those exchanges, those intermediaries, to be registered, regulated, examined, and then subject to enforcement, is probably a quicker path to providing the investor protections that are currently lacking in these markets.

Chairman THOMPSON. Could you please tell me about past instances where the CFTC and the SEC had shared jurisdiction, and whether there were any lessons learned from those experiences?

Mr. KULKIN. Sure. I think the biggest success case is post-Dodd-Frank, when the SEC was given jurisdiction or asserted jurisdiction over security-based swaps, and the CFTC over swaps. And through that, the SEC and the CFTC adopted joint rules together that really set the fundamental baseline for swap market regulation. I think that succeeded because Congress led and gave direction. And I would contrast that with the work that has been done on security futures contracts and securities future regulation, where the agencies work together but not with the same direct clarity from Congress, and it hasn't been as successful.

Chairman THOMPSON. Mr. Massad, besides the National Futures Association's (NFA's) precedent for this structure, are you firm with NFA's role as a joint CFTC/SEC SRO? Let me start with Mr. Kulkin, if you could?

Mr. KULKIN. Yes, Mr. Chairman. When I was at the CFTC, part of my portfolio included working with the NFA. I think it is important to note that the NFA has 500 employees, and post-Dodd-Frank, they built out from scratch a complete registration and ex-

amination program for swap dealers. We're a decade out now, and it is fully operational. So when I think about an SRO model we have seen in recent years, the NFA does exactly what we are talking about today.

Chairman THOMPSON. Very good. In my few remaining seconds. I want to thank our two Subcommittee Chairs for doing such a great job in this space for future leadership. I yield back.

Chairman HILL. Thank you.

And now, I have the pleasure of recognizing my friend from Georgia, the ranking member of the Committee on Agriculture, Mr. Scott, for 5 minutes.

Mr. DAVID SCOTT of Georgia. Thank you very much. And I want to thank all of the witnesses for joining us and being here. This is a very important and timely hearing. As some of you may know, I have long been concerned about the risks and the pitfalls of cryptocurrencies and what they pose for our retail investors.

And also, as some of you may know, as Chair of the House Agriculture Committee, I provided leadership on this issue. One year ago, on May 13, 2022, we held a hearing, examining FTX and its proposal to trade margin products through a non-intermediary model. And in that historic and monumental hearing in our House Agriculture Committee, I raised my serious concerns about this proposal because I believed it made an already-risky market even riskier for investors. I was concerned that FTX was playing fast and loose with our markets, to the detriment of the customer. And I have been proven right. And I continue to be concerned. As of now, many other Members of Congress have followed my leadership on this issue about the vulnerability and the volatility of cryptocurrency, which we have seen time and time again.

And now, FTX, this stunning collapse has revealed extraordinary mismanagement, misappropriation of customer funds, a complete failure to adhere to basic measures of corporate control, and, quite honestly, an arrogant example of corporate deceit. And FTX, while certainly the most-prominent example, is not alone. VenEx Holdings is currently under investigation for violations of our sanctions laws, and we have seen countless other examples of this type of misuse and abuse.

So, ladies and gentlemen, as we have seen time and time again, these sketchy types of offerings provide little to nothing in the way of disclosures to investors, who, quite honestly, are being used. And now, ladies and gentlemen, our cryptocurrency markets are rife with fraud, misuse, and volatility that seems to pose all risks and no rewards for our everyday investors. Here is my real point. The supposed benefits of digital assets that we have all heard about, have yet to be seen in real life. It doesn't work as a currency. And I ask you, do everyday Americans pay for goods and services using cryptocurrency? The answer is absolutely not.

And importantly, it does not advance economic inclusion as so many platforms claim they do. Ladies and gentlemen, I have spent 20 years as a Member of the United States Congress, fighting for true financial inclusion. And that means ensuring that consumers are protected from fraud, are protected from scams, and are not subject to hefty fees for their transactions.

Also, it means improving the overall financial health of all consumers, especially low-income consumers who are unfortunately regularly left out of our financial system. So let me ask you, how does pushing these same consumers into opaque, risky, volatile markets advance these goals?

Chairman HILL. Would you please——

Mr. DAVID SCOTT of Georgia. There is no way they do, Mr. Massad.

Chairman HILL. Mr. Scott?

Mr. DAVID SCOTT of Georgia. Yes.

Chairman HILL. I would like to ask you to direct that question to somebody to respond in writing because your time has expired.

Mr. DAVID SCOTT of Georgia. Please, Mr. Massad, respond to it in writing.

Chairman HILL. The gentleman yields back. I now recognize the gentleman from Ohio, Mr. Davidson, who is also the Chair of our Housing and Insurance Subcommittee, for 5 minutes.

Mr. DAVIDSON. I thank the chairman, and I thank our witnesses. And I think in spite of all the narratives up here, the market is really clear. I think of any number of companies that have experienced Gary Gensler's, "Hotel California," approach to crypto regulation where there is no path to leave, you come in, and you ask for the clarity that he says is there, and there is just no path to escape.

Several of the companies who have witnesses here today have experienced that, oh, if I only knew to click the link to file, I think the Kraken CEO said we could have saved millions of dollars. So, the reality is not shaped by what the Members of Congress are saying up here. The market is very clearly speaking and we do need to react to that.

Mr. Santori, in a POLITICO interview you gave last month, you were asked what you believe is an underrated idea in this space. You said that it was the power of exit and explained how we don't have such an ability to exit from intermediaries in traditional finance. This would be the ability to have self-custody. And in your testimony, you also explain how your exchange complies with Know Your Customer (KYC) and Anti-Money Laundering (AML) laws. Can you explain for some of the members of the two committees how it is possible to reconcile the idea of self-custody while simultaneously adhering to Know Your Customer rules?

Mr. SANTORI. Thank you for the question, Congressman. I do think the two are compatible. I think that we as an ecosystem can both walk and chew gum at the same time. I think that KYC is not incompatible with self-custody. I think that the important factor is, who is best-placed to collect that information? Kraken is a centralized service, we are a custodian, we are an intermediary. We are here today to reinforce that we are indeed well-placed to collect that information. We KYC every single customer who uses our platform in the United States.

From South China to South America to the South Bronx, we KYC everybody, because we are well-placed to do that. Part of the promise of digital assets is the ability to self-custody. We don't offer self-custody products, but other participants in the market do offer self-custody products. Those are pure software that is pure speech.

They are publishers of software, they are not in a position to collect KYC information, and they shouldn't be required to. We don't require KYC for every single transaction in the U.S. economy. It doesn't make sense to require every participant in the U.S. economy to KYC. We as a centralized exchange are happy to do that. And we would expect that that would be included in any action that Congress takes as a result of these hearings.

Mr. DAVIDSON. Yes, thank you for the clarification. And I think custody is just so important. Of course, self-custody is just the ability to own private property. And I think it is also important that we recognize when capital gains, if any, are triggered, and it shouldn't trigger whether you move from one custodian to another, including self-custody.

Mr. Schoenberger, in your testimony you mentioned that Polkadot is ranked as a top industry participant when it comes to your protocol's level of decentralization. In my bill, the Token Taxonomy Act, one of the bright-line elements I proposed for defining whether a digital asset is a security or not, is the degree of control that an issuer would have over the digital assets. So when this body writes laws that will help distinguish between what is and is not a security, do you believe that we should factor in the level of decentralization that protocol has, like proof of stake?

Mr. SCHOENBERGER. I think that this is a crucial point because community consensus, which goes back to decentralization, is at the core of the idea of Web3. And if we look at the DOT token, what it does, it is essentially a piece of orchestrating software. It is technology. It is a piece that helps access and participate in the broader network bit. I think we should look at what these tokens do if we want to regulate them as opposed to what they are called. And the foundation launched the network and gradually gave up control like it was a launch process that lasted a year-and-a-half, but ultimately ceased central control, be it at a technical or a governance level.

Mr. DAVIDSON. Yes, I think that is an important distinction. And how do we measure when that point occurs? I think of Protocol Labs and Filecoin in a similar path where they very overtly used our existing framework to launch the project. But at some point, this is the, "Hotel California," from which they can't escape. When is Filecoin actually a digital asset and no longer part of the entity, Protocol Labs? I hope we resolve that here today. And I yield back.

Chairman HILL. I thank the gentleman for yielding back, and I now recognize my friend from Illinois, Dr. Foster, for 5 minutes. Thank you.

Mr. FOSTER. Thank you, Mr. Chairman, and thanks to our witnesses as well. Estimates that were referenced in the testimony indicate that anywhere between 50 percent and 95 percent of Bitcoin transactions are fakes, that it is wash trades and similar products on the market. So for the first question, does anyone on the panel believe that it is possible to conduct a well-regulated futures and derivatives market when the underlying asset is subject to this level of market manipulation? Let the record show that no one believed it was possible.

Mr. SANTORI. Sir, you have two people with their lights on.

Mr. FOSTER. Oh, is that right? Okay. Yes. So, describe how you can have a well-regulated derivatives market when the underlying asset is subject to massive market manipulation?

Mr. KULKIN. I think that question supports why the CFTC, which is limited right now to simply monitor——

Mr. FOSTER. It is the swap market, yes.

Mr. KULKIN. That is right, and——

Mr. FOSTER. And I agree completely. That is the point. You agree with the point that we have to do a better job. We have to eliminate manipulation in the swap market to have well-regulated derivatives.

Mr. KULKIN. Yes.

Mr. FOSTER. Okay. Everyone concurs with that. Great. Now, if we wish to prevent wash trades, insider trading, front running, money laundering, ransomware, and everything else, is there any alternative to having both sides of every crypto transaction associated with a traceable digital identity? And have that digital identity issued by a government with which we have extradition treaties and a common concept of financial fraud, is there any alternative to that? Okay. Let the record show that no one came forth with an alternative.

Mr. SANTORI. Sir, are you asking whether there is an alternative to——

Mr. FOSTER. Yes, how do you prevent wash trades without associating both participants in any crypto transaction with a trusted, traceable digital identity?

Mr. SANTORI. I do believe there are alternatives to, I believe——

Mr. FOSTER. Describe one example of something that can prevent wash trades, that does not have traceability of digital identity to both participants?

Mr. SANTORI. Kraken, for example, monitors our exchange for abuse on——

Mr. FOSTER. On your exchange, but you accept Bitcoin, which gets traded anonymously on the dark web without that. So, you are basically a portal to that. You are not preventing——

Mr. SANTORI. I wouldn't say that at all. I think we play an important role as gatekeepers in this industry.

Mr. FOSTER. But there are wash trades happening with self-custody that you cannot control, for example.

Mr. SANTORI. I would be surprised if wash trades happened in any meaningful sense. Trades cost, they are expensive to do on-chain, and particularly, MAS wash trading on-chain is regularly detected by forensics platforms. There are——

Mr. FOSTER. Or some crypto assets. There are crypto assets where the identity is much more difficult to trace. And I believe this is not possible. And the market will no doubt move to those if it is driven by the desire to do anonymous and fraudulent trading. I think that really, in my mind, is the place that we have to go.

Actually, Mr. Kulkin, you mentioned on page 9 of your testimony that various industry participants have suggested various KYC solutions, including even at the wallet level. And so, this strikes me as where we're going to have to end up here. Now, if you just look at the automobile industry, and how essential it has been to the

development of the automobile industry to have license plates be mandatory on every car and to have the license plate issued to a registered driver—it would be completely unacceptable to have unlicensed cars with unlicensed drivers cruising through your neighborhood or coming across your international borders.

And for the same reason, I believe we will have to issue a trusted digital identity at the wallet level. For every crypto wallet, you will have to say, I want a wallet. Go to a government that we trust and have that license plate issued for that wallet. Could you describe some of the proposals, concrete proposals for wallet-level identity?

Mr. KULKIN. Congressman, I will defer to others. I think someone else on the panel made the point about KYC-ing wallets. But I would build on Mr. Santori's point, and note that if the CFTC had regulatory authority over the spot market, it would be able to impose on registrants through core principles in the same way that it does for futures and swaps markets, that the exchanges conduct surveillance, and that the KYC participants, as part of their onboarding, submit to the rules and jurisdiction of the exchange. And those exchanges essentially act as an SRO, in addition to the CFTC and the NFA.

Mr. FOSTER. Okay. Mr. Schoenberger, in your testimony you made the comparison with Web3 and SMTP mail transfer protocol, with the idea that people would somehow be interacting with the blockchain. Excuse me. I am out of time. If you could respond in writing to the Moxie Marlinspike article that you are no doubt familiar with, "My first look at Web3," I would appreciate it.

Chairman HILL. The gentleman yields back. Thank you. You can respond to his question in writing.

I now turn to the gentleman from Tennessee, Mr. Rose, for 5 minutes.

Mr. ROSE. Thank you to our distinguished chairmen and our ranking members for holding this hearing. And thanks to the witnesses for sharing your time today. Mr. Chairman, I kind of feel like a NASCAR driver but I am not sure which cap to wear, my Agriculture cap or my Financial Services cap today, but I am honored to get to be a part of this hearing and hear from these august witnesses.

I would like to begin today with Mr. Kulkin and Mr. Massad, who suggested exchanges that don't list Bitcoin or Ether would be excluded from regulation. Mr. Massad testified that U.S. exchanges collectively list around 400 digital assets. The SEC has indicated that there are nearly 10,000 digital assets being traded on hundreds of platforms. Do you think it is problematic if we don't regulate the trading of digital assets and exchanges that don't list Bitcoin or Ether for trading?

Mr. KULKIN. Congressman, thank you for the question. There are a number of digital commodities in addition to just Bitcoin and Ethereum. And I think to Mr. Durgee's point earlier, that trend will continue, so creating an artificial restriction to only include those digital commodities—I suspect we will be back here speaking with you again in the future.

Mr. ROSE. Again, Mr. Kulkin, I have heard some of my Democratic colleagues, particularly on the Financial Services Committee, claim that because Gary Gensler has declared that nearly all dig-

ital assets are securities, that we should just treat them all as such. Do you think this is the right approach, to do nothing and let Mr. Gensler just have full control of the space?

Mr. KULKIN. Congressman, I don't. But I don't think that is the best approach, because nearly 70 percent of digital commodities traded today have already been deemed commodities by the CFTC, as a body, as opposed to any Chair, Commissioner, or staff. And so, I think we need to be thoughtful about which products are commodities and should be treated as commodities, just like oil or soybeans or interest rates.

Mr. ROSE. I personally would liken Chair Gensler's approach to my son, Sam's, approach. He is 2-years-old, and when it comes to toys, he wants to hold all of the toys, but he doesn't want anyone else to be able to play with the toys at the same time. And so, I thank you for your answer.

Mr. Santori, Mr. Massad testified that Congress should not pursue legislation creating new asset classes under the jurisdiction of the CFTC or the SEC because it would generate confusion and lead to disputes. Do you agree?

Mr. SANTORI. Thank you for the question, Congressman. I don't agree. I think that what we have today is abundant confusion and complexity. We have two of our financial regulators here in the United States, alleging contradictory positions over the same asset. They have alleged that the same asset is one under oath, sworn. And, again, a complaint that it is both a security and a commodity, but it doesn't fit into the narrow classifications of assets that can be both as a future. What we have today is an untenable position. What we have today is unending complexity and litigation that is leaving consumers unprotected and leaving us as a global organization unable to plan and unable to invest here in the United States.

Mr. ROSE. Mr. Kulkin, would you like to respond to that as well?

Mr. KULKIN. No. I agree with Mr. Santori.

Mr. ROSE. Thank you. Mr. Santori, it is essential for any market structure legislation to set rules for the custody of digital assets so the customers can have confidence that their digital assets actually are where an intermediary says they are. Digital assets raise, of course, several novel issues when it comes to custody that must be addressed.

Mr. Santori, as we think about how to apply these protections to digital assets, do you have any recommendations for how we should address issues related to custody?

Mr. SANTORI. Thank you for the question, Congressman. Custody is something we believe that is critical to consumer protection. We believe it is critical to our ethos. It is part of Kraken's ethos. The failings that we have seen over the last year have had quite a bit to do with a lack of corporate governance controls, among them being custody. Kraken does offer custody for its users.

We segregate our users' funds and their assets. But I will say that there is no such thing as physical segregation on a blockchain because these assets are digital, they are not physical. Custody is an important thing to get right for this Congress. I would say that the most important element of this is prescribing uniform standards for custody across market participants, so the consumers

know how their assets are being held in custody and they can have confidence in it.

Mr. ROSE. Thank you. And I yield back, Mr. Chairman.

Chairman HILL. I thank the gentleman. Ms. Budzinski, what State are you from?

Ms. BUDZINSKI. Illinois.

Chairman HILL. Illinois. You are recognized for 5 minutes.

Ms. BUDZINSKI. Thank you, Mr. Chairman, and thank you to the ranking members, and thank you to the panelists today. I appreciate your testimony. As we participate in these important hearings on the future of digital assets, it is very clear that there is a pressing need to develop a regulatory framework for this industry to protect consumers while also allowing room for growth.

I was really happy to participate in the subcommittee hearing we had on the House Agriculture Committee not too long ago. But maybe zooming out a bit on this topic, at the same time, I hosted a town hall, my first town hall as a freshman in my district last week, and we talked about a whole host of issues from the farm bill to the debt ceiling. And yet, I just don't hear a lot about these issues from my constituents. I represent a very rural part of our State, central and southern Illinois.

So, I am asking all of you as panelists, how do we frame this conversation for folks back home, when we are talking to constituents, as it relates to the vision for DeFi to be a supplement to those who have been underrepresented in the traditional finance markets, in particular? I would be interested in your thoughts. Thank you.

Mr. MASSAD. If I may address that? I agree with you, Congresswoman. These issues obviously aren't central to most Americans, who are worried about whether they will have a job, whether their incomes will rise, the price of goods, education of their families. What concerns me, though, is what we saw when crypto prices really rose quickly, were a lot of people who thought, Oh, I am going to invest in this and I can quickly make some money.

And maybe, they even understood that there was volatility to the assets, although I think a lot of them didn't understand that. But there is also a huge amount of risk in these platforms, and so it is maybe not that important an issue for most Americans. But I think we have a responsibility to create an investor protection regime so that they are not taken unfair advantage of, they are not risking their hard-earned savings on things where there is so much fraud and scam and risk.

Mr. KULKIN. Congresswoman, if I could just add, when I tried to explain to friends and family that the CFTC has enforcement authority, which is really reactionary, but that they do not have regulatory authority in the commodity spot market, frankly, they were surprised. It is confusing. It is complicated. And so, in my mind, the best incremental step forward here is to expand the CFTC's authority so that participants, particularly retail participants, have the protections that a lot of them think they already have, but that don't exist.

Mr. DURGEE. Additionally, up until recently, unaccredited investors could really only participate in post-IPO offerings. Most of the larger gains take place pre-IPO. So when we look at access and inclusion in particular districts like yours, those individuals don't

have the ability to even participate. So, due to U.S. accreditation laws, it creates an even greater wealth disparity.

So when the crypto markets became activated, particularly in the U.S., you started to see U.S. retail investors participating, and it was almost their first glimpse at participating in what would be considered an early-stage startup that they could never have touched otherwise. Now, if we had clear regulatory frameworks in consumer protections, where they had the ability to participate within those markets and there was some level of oversight, then they would be sitting in a much better position than they are now and still be able to participate in something that is early, that otherwise they never would have been able to touch.

Ms. BUDZINSKI. Great points. Thank you. I had just one other follow-up question with my remaining time for Mr. Massad. Your testimony touched on the resources that would be necessary to equip the CFTC, should they be given additional regulatory authorities? Could you walk us through resources the Agency identified or invested in during your time at the CFTC in relation to digital assets and any additional resources we should be looking at now?

Mr. MASSAD. Thank you, Congresswoman. It was still a fairly small market when I was in office. I left in early 2017. And we did not, under my tenure, approve any futures products. There were only swaps trading on platforms with eligible contract participants.

In terms of our regulatory authority, it was fairly small at that time obviously, with the overall growth of the market and the fact that we now have several platforms trading derivatives on crypto, it is a much bigger challenge. And if you then go and give the CFTC spot market authority, and I think they are very competent, they could do that, but only if they get adequate resources because it is just a big policing job.

Ms. BUDZINSKI. Thank you, Mr. Chairman. I yield back. Thank you.

Chairman HILL. The gentlewoman from Illinois yields back. The gentleman from Oklahoma, the former Chair of the House Agriculture Committee, and a great American, Mr. Lucas, is recognized for 5 minutes.

Mr. LUCAS. Thank you, Mr. Chairman. I very much appreciate that. The EU recently approved its markets in crypto assets regulation and the U.K. is currently crafting its own framework.

Mr. Santori, as other jurisdictions craft their own frameworks, and more time passes without a digital asset market structure framework in the U.S., how does this make our job more difficult as we write the rules of the road here at home?

Mr. SANTORI. Thank you for the question, Congressman. Other jurisdictions are indeed pushing ahead. They have been pushing ahead. These are G20 jurisdictions with sophisticated financial services markets, with sophisticated technology industries. The U.S. is significantly behind in that respect. It is important that we get it right, not necessarily get it first. But I can tell you firsthand, as a global business with a global footprint, we have made plans to invest in Europe.

We are making plans to invest in the United Kingdom. Our plans to invest in the United States by hiring people, by expanding our boots-on-the-ground operations, well, we are limited in that regard.

We find it quite difficult to figure out just how much we should deploy in terms of resources here without a comprehensive Federal plan.

Mr. LUCAS. As we continue this discussion and work towards legislation, we should keep in mind that the United States, of course, has the most-efficient, most-liquid, and the deepest capital markets in the world. This is a result of our willingness to embrace innovative technologies, not stop innovation abstracts.

Mr. Blaugrund, could you touch on this? You touched on this in your testimony, but from the perspective of the world's largest stock exchange, could you elaborate generally on both the difficulty and the importance of balancing financial innovation with investor protection?

Mr. BLAUGRUND. Certainly. Thank you. I think you have placed it very well, balancing investor access and investor protection is a crucial exercise. And certainly, the framework that we see in the National Securities Exchanges is one model which may lend itself well to this more-nascent space. In particular, the segregation of roles between an exchange and a broker, between the exchange and the clearinghouse and a custodian, that is really basic risk management and can give the public consumer, the public investor confidence that they are not going to use a crypto term of art.

Mr. LUCAS. Following up on that, you discussed how the regulators could choose to provide relief for exchanges that want to list digital assets. From your perspective, what SEC, and for that matter CFTC rules should be altered to address this?

Mr. BLAUGRUND. I think the first issue that needs to be addressed is really a chicken-and-egg problem. Right now, there are prospective issuers who are reluctant to pursue registration because there aren't exchanges, sort of capitally National Securities Exchanges on which they could trade. And National Securities Exchanges are reluctant to enter the space because there are no listings that have been effective under the SEC. So, I think the SEC needs to consider some sort of on-ramp to allow for existing tokens to come into the regulatory fold and find a way that we can sort of end this chicken-and-egg situation.

Mr. LUCAS. Mr. Santori, you said that a major barrier for digital asset trading platforms to register with the SEC is the direct interaction with retail investors rather than through broker-dealers. In your view, what revisions are needed to current law as it relates to broker-dealers in order to have a digital asset trading platform be successful? What are the characteristics of digital assets that you believe make this necessary, in my remaining time?

Mr. SANTORI. Thank you for the question, Congressman. We believe that the broker-dealer construct is a flexible enough construct to accommodate a great deal of trading and digital assets. Broker-dealers can interact directly with consumers and investors. They can elect under Reg. ATS to operate essentially as an exchange. This flexibility is, I think, critical to the task in front of Congress today. And you can contrast that flexibility with the rigid regime that exists for National Securities Exchanges that require intermediation, require that assets not trade after-hours because of the price pressure that occurs on that trading after-hours, require transfer agents, which are one of the extractive intermediaries that

are obviated by digital assets and blockchains. We think that the SEC still has a role over the future of digital asset trading and the broker-dealers specifically; the ATS regime is an excellent fit.

Chairman HILL. Thanks, Mr. Santori. The gentleman's time has expired. And the committee is very pleased that the witness from the New York Stock Exchange used an agriculture analogy of chicken and egg. We are grateful for that today.

And now, I turn to the distinguished ranking member of the full Financial Services Committee, Ms. Waters, for 5 minutes.

Ms. WATERS. Thank you very much. I am going to address this question to Mr. Blaugrund. As I mentioned in my opening statement, this committee has heard from a wide range of market participants about the nature-addressed discrete risk posed by stablecoins, which will be subject to bank-like runs similar to what we saw with SVB, and previously with money market funds.

We have also heard about the need to enhance the SEC's authority because it is currently limited when going after firms overseas, and the need to enhance the CFTC's authority because it currently lacks authority over so-called spot markets. However, there is a broader effort underfoot to establish an entirely new market structure for cryptocurrencies and their issuers.

I think that we should first pause and consider whether our securities and commodity market structure is sufficient to address these issues. For 90 years, the New York Stock Exchange and other market participants have been highly-regulated to enable American companies seeking capital to gain the trust of investors, and we have it. We often talk about how our capital markets are the envy of the world, and it is our securities laws that make that so.

Your exchange must abide by strict rules about what it can and cannot do. This is a result of regulation designed to protect investor assets by providing the markets with material information, eliminating conflicts of interest, and risk to our financial system, and promoting fair competition.

In your view, are crypto exchanges meaningfully different from traditional exchanges such that they should warrant an entirely new legislative and regulatory framework? What would be the effect of crafting a new and separate legal framework for crypto exchanges?

Mr. BLAUGRUND. Thank you very much for your question. I think it is a general principle that like functions should be regulated in like fashion. And while it is true that the digital asset trading platforms have commingled many of the functions, which in the traditional markets are discreetly highly-regulated, like brokerage, exchange, and clearing and custody, the fact that they have commingled them doesn't decrease risk; it increases risk. So in our mind, bringing those activities up to the standard that has been established for National Securities Exchanges is an appropriate posture.

To your second question, we are certainly concerned that should there be an alternative lighter-touch treatment that is developed for digital assets, there is a risk of regulatory arbitrage that is established, and that would somehow diminish or degrade the investor confidence, the resiliency, the transparency, and the leadership of our more traditional markets as well. There are certainly adaptations that the regulatory agencies should consider with respect to

digital assets and refining the way that they are supportive. But we believe that they have the authority they need today to do so.

Ms. WATERS. Thank you very much. And I yield back the balance of my time.

Chairman HILL. The gentlewoman yields back. Mr. Steil from Wisconsin is recognized for 5 minutes.

Mr. STEIL. I thank both of our chairmen and both of our ranking members for calling today's hearing. It is great to see Agriculture and Financial Services come together to address a really big challenge. Why? Because I think it is time for Congress to get to work on digital asset rules because the current regulation-by-enforcement practice is not working.

Last month, the Financial Services Committee asked SEC Chairman Gensler for his view on the future of digital assets regulations, and candidly, we didn't learn a lot. We didn't hear a path forward for digital asset regulation. Maybe, one of the only things we learned was that Chairman Gensler has never traded a digital asset himself.

We don't know what Chairman Gensler's plans are, and there are not clear rules in front of us. And regulation by enforcement doesn't work. They come in and register Black Box served. The registered by Black Box is serving to chill the digital assets innovation. I don't think we can afford as a country to cede regulation to other countries. I am concerned that it is going to move innovation outside the United States, move it overseas, costing Americans jobs and putting U.S. retail investors ultimately at a disadvantage. And I think this hearing demonstrates that Congress is ready to do the job.

Let me dive in and ask a question if I can of you, Mr. Schoenberger. In particular, when we think about the global construct, if we fail to do this here in the United States and we see innovation move abroad, I want to look at what other countries, what other regions are doing, and in particular, how do regulators in Europe view blockchain technology, and how does this attitude differ from that of U.S. regulators?

Mr. SCHOENBERGER. Thank you, Congressman, for the question. I can speak for the Web3 Foundation, that made a very deliberate decision at the time to be headquartered in Switzerland. Switzerland provided very early on for a very clear regulatory framework, distinguishing between payment tokens, security tokens, and utility tokens, and also the Swiss regulator, FINMA, issued a no-action letter to the Web3 Foundation back in 2019.

Mr. STEIL. Would it be fair to say that they took a much more forward-thinking approach in Switzerland and in Europe?

Mr. SCHOENBERGER. I would say so. This framework that they provided certainly provided the legal certainty to be headquartered there and have legal clarity around the classification instantly.

Mr. STEIL. Thank you very much.

Mr. Durgee, if I can shift over to you, the European Union recently approved its Markets in Crypto-Assets Regulation (MiCA). What lessons can we take away from the EU's experiences as we craft our own market structure laws here in the United States?

Mr. DURGEE. Yes, thank you for the question. As we look at the rollout of MiCA, which won't take place actually until 2024, it real-

ly is the first large-scale jurisdictional regulatory framework that we have seen from our major market. It is very focused on retail investors, particularly, protecting them in the earlier stages of these projects and the project development. But I would say it would be a misstep to only look there.

If we look at other jurisdictions like the Virtual Assets Regulatory Authority (VARA) out of Dubai, MAS out of Singapore, and we look at what South Korea is doing, particularly around security tokens and gaming, you start to get a much more holistic view of how the world is approaching the asset class, as the United States starts to wait in the wings.

Mr. STEIL. And as those countries have more stability, more clarity, not driving forward through a regulatory approach with putting forward rules and regulations of the road, do you see more investment in innovation occurring in those jurisdictions?

Mr. DURGEE. Extensively so. And the real example is—I think I am the only one here who actually runs early-stage venture funds; we have multiple ones out of Republic that we run—in the last 3 years, there has been a huge shift to offshore investments. I would say we are doing over 3 times more investments offshore than in the United States.

Mr. STEIL. Thank you very much.

One final question to you, Mr. Santori. We have talked about the Howey Test, and how it is used. And in particular, do you think these efforts of other requirements is triggered when you have a digital asset project where holders contribute to the development and success of a functional or decentralized network?

Mr. SANTORI. Thank you for the question, Congressman. No, I don't. I think that is actually quite rare. I think that the attraction of blockchain networks is, among other things, the ability to coordinate between large, otherwise disorganized groups whose efforts contribute to the code, but who don't act together as issuers, who don't exercise managerial expertise over profits and losses. This is a very different environment than what was contemplated and how we ended storage growth.

Mr. STEIL. Thank you very much, because one of the requirements of the Howey Test is that the profits be primarily derived from the efforts of others. I think your comment there is helpful. Mr. Chairman, I yield back.

Chairman HILL. The gentleman yields back. The gentleman from North Carolina, Mr. Davis, is recognized for 5 minutes.

Mr. DAVIS of North Carolina. Thank you so much, Mr. Chairman, and I will say good morning to all of the witnesses today. Thank you so much for joining us, and especially to my colleagues, too, on the Financial Services Committee, as well as those on our House Agriculture Committee. I'm looking at Pew report research that was done and this particular data point is showing as high as 66 percent minority communities using—and this is self-reported, by the way, U.S. adults that are self-reporting having traded or use cryptocurrency.

And my question here is, I have looked at different research that has been out there just trying to get an understanding of what is taking place. And I just want to understand, as we are here trying

to wriggle out, discuss regulation, how do we best understand right now, in terms of the data, what is actually taking place before us?

Mr. MASSAD. If I may answer that, Congressman, I am very concerned by this statistic you cited, I think it does suggest that a lot of people might be jumping into this space, not being fully aware of all the risks. I think we certainly saw that as prices started to go up dramatically in crypto. And I think it just speaks to the need to create a much better investor protection framework. We do not have that today in this industry.

Mr. SANTORI. If I could add, Congressman, this discussion is not just about people using tokens or people using digital assets. This discussion is about people using the product of those digital assets, the functional use cases that exist today, and this Congress has heard from witnesses who have laid bare some of those uses.

I can add a couple to that pile, but maybe one in particular that I think illustrates that distinction between the use case and the coin. Today, when you watch a video on your phone, and we all probably watch videos on our phone from time to time, those videos are recorded in far-off places using different standards, resolutions, color schemes, et cetera. Transforming that into a version that fits on your phone takes computing and processing power. It takes time and effort. And it is expensive. There are blockchain-based networks now that coordinate and incentivize that process, it is called transcoding, so that end-users can see that video that is being recorded in a different resolution on their phone, on their screen, on a big screen, on IMAX, right?

People are using that technology today to view videos of all kinds, mundane use cases that have nothing to do with blockchain technology. But those use cases are being provisioned and delivered because of functional networks in digital assets. Kraken doesn't provide that. We would be the subject of regulation; we only provide liquidity services. But we are a part of that ecosystem. And that is part of this conversation today.

Mr. DAVIS of North Carolina. When I think broadly speaking, and we look at the recent market, what has happened with the market in terms of crisis, and come back to just trying to piecemeal and understand the dynamics of what is taking place, it would be concerning at how we are able to identify certain trends in the data.

And what would be important to me when we obviously are talking about safeguarding consumers from fraud scams that are taking place, at how we are proactively looking at any trend lines to further protect consumers.

And I would love, with the time remaining, if anyone would like to just add another comment on what that looks like, identifying any trend lines that would be of concern when we are talking about putting safeguards in place for consumer protection.

Mr. KULKIN. Yes. Congressman, if I could, I will maybe offer that I think right now, market participants see press releases where regulatory agencies like the CFTC are bringing cases in the spot market for trading of things like Bitcoin, Ethereum, and certain stablecoins for fraud and manipulation. And they assume or they think that the CFTC has full regulatory authority for those markets, but they don't. And they later find out that customer funds

aren't being segregated, the markets aren't being subject to surveillance, and they are not getting specific treatment under bankruptcy. And so, there is an effort that could be made to expand the authority, which would then go to further education of the market.

Mr. DAVIS of North Carolina. Thank you. I yield back, Mr. Chairman.

Chairman HILL. Thank you, Mr. Davis. Mr. Timmons of South Carolina is recognized for 5 minutes.

Mr. TIMMONS. Thank you, Mr. Chairman. The question, is a digital asset a security, really is a question of, should existing securities regulations apply to digital assets? It seems to me that the answer is no. Blockchain technology enables digital assets to be created, stored, transferred, and transacted. The use of digital assets is essential to our discussion here. Some are cryptocurrencies intended to be used as a means of payment to buy goods and services. Some are digital assets intended to represent traditional assets such as equities, bonds, or derivatives. Some are digital tokens intended to provide access to and operate blockchain-based infrastructures.

Further still, digital assets have different funding structures at their inception, different governance structures, different operational rules, and different marketed economic realities. Existing securities regulations simply do not have the appropriate flexibility to foster innovation and support the adoption of blockchain technology in all of its use cases, while also providing the necessary investor protections. Here in Congress, we face a daunting task in navigating these regulatory waters.

I believe Congress must act to clarify the regulatory uncertainty. Digital assets will be a huge part of the global economy in the future. The strength of our markets and the rule of law in the United States gives us the ability to lead in the future of digital assets. That ability to lead is also often a burden, but it is a burden that we are obligated to rise to the occasion and meet.

The purpose of this hearing is to identify what future framework will best meet the needs of the digital assets industry while protecting our citizens from foreseeable harm. Along those lines, I have a few questions around whether existing securities regulations should apply to digital assets. One of the hallmarks of digital asset that has reached its full potential is being functional and decentralized.

Mr. Schoenberger, would you discuss what it means for digital assets to be functional and decentralized, and why these features have become the end goal for so many digital asset projects.

Mr. SCHOENBERGER. Thank you, Congressman, for the question. I would say this is certainly true for DOT, and some other projects probably not far at all. For those, wherever it applies, we need to go back to the Web3 version that is based on community consensus, and this necessarily requires that there is no central entity controlling the network. The Web3 Foundation, during the launch of the Polkadot network, gave up control over the network and handed that over to the community very early in the game. So, that is the decentralization part.

Being functional simply means a token needs to be more than simply a means of payments or a vehicle for investment. In the

case of DOT again, this gives you access to the network. It is used for securing the networks, used for participating in the governance, and also if you want to lease blockchain on top of that network.

Mr. TIMMONS. Thank you for that. One follow-up, in your testimony you said that when the foundation removed the pseudo key, it was a pivotal point in decentralizing the Polkadot network. Would you explain more about that process and how it ensured that the foundation could not control the network anymore?

Mr. SCHOENBERGER. Sure. The pseudo key gives super-use of capacity, which gives you the abilities of a super-admin. This key, together with abilities, was given up, and since the code is all open source, this can be looked up by literally everyone. And once this was handed over to the community to hold control over the network, to reinstate this will take a majority vote of the community.

Mr. TIMMONS. Thank you for that. We discussed today that either legislation or adaptations are needed. I want to discuss that some more. Bitcoin is the most popular digital asset ecosystem. It is also the only digital asset that both the SEC and the CFTC can agree is a commodity.

Mr. Santori, under the current securities laws, would it be possible for National Securities Exchanges to list Bitcoin and securities alongside each other?

Mr. SANTORI. Thank you for the question, Mr. Timmons. No, no, no, it wouldn't. National Securities Exchanges are limited in the assets that they can list. And it is not just a question of amending the list of assets they can list; it is a matter of ripping the heart out of the rules that are in place that make that listing possible. The limitations on trading times, the requirement of intermediaries that can be expensive, and the requirement that they don't list additional assets, are fundamental to the structure of a National Securities Exchange that exists in the United States. It is not a flexible one.

Mr. TIMMONS. Thank you for that. Mr. Chairman, I yield back.

Chairman HILL. The gentleman yields back. The gentleman from Illinois, Mr. Casten, is recognized for 5 minutes.

Mr. CASTEN. Thank you, Mr. Chairman, and thank you to all of our witnesses here today. I have just a general request, and I feel like I make some version of this at all of our hearings. If a carpenter asked you, why do I need a screwdriver, and you said, let me tell you why all carpenters need to use toolboxes, we would say you are not answering the question.

We are not here today to talk about whether or not Web3 or blockchain should be regulated at some entity. We are not here to talk about whether or not you can pay for things with a digital dollar through invoices. We are here to talk about cryptocurrency. And so, I would ask you all to limit your conversations to that, because the questions are about the token, not the ecosystem in which the token lives.

I want to start with you, Mr. Durgee. I want to make sure I didn't misunderstand you. If I understand your testimony, is it your view that the cryptocurrencies will help close the wealth inequality gap?

Mr. DURGEE. Indeed, it is.

Mr. CASTEN. Okay. If you had invested in the S&P Index over the last 5 years, from 2017 to 2022, do you know what the return is you would have earned?

Mr. DURGEE. It would not have been terrible.

Mr. CASTEN. Yes, that is almost 61 percent. There have been 12 cryptocurrencies that have existed during that same 5-year period. Do you know what the median return is if I had invested in that basket of currencies over the same period?

Mr. DURGEE. I assume I know the basket you are talking about, and it would be less than that.

Mr. CASTEN. It is a lot less, in fact, I would have lost 46 percent of my money. It is a negative yield. Now, that is the median cryptocurrency, and we could talk about where the other ones are, but according to a recent report from the Bank for International Settlements, 73 percent to 81 percent of all of the Bitcoin traders during that period lost money. Do you want to revisit your statement about this being a great way to close the wealth inequality gap?

Mr. DURGEE. I think when we look at the wealth inequality gap, we come back to the aspect of accredited versus unaccredited access.

Mr. CASTEN. That is a different question. The historical data is that this is not actually a way to grow wealth. I am really concerned if we are telling people who do not have the sophistication, that this thing where they would have lost 46 percent of their money over the last 5 years is something other, than I don't know, a way to transfer wealth?

Mr. DURGEE. Yes. I think when we go back away and we look at that, we are all here to talk about consumer protections, right? That is the goal of this conversation.

Mr. CASTEN. But I asked the question because there is a myth about wealth inequality. I am happy to debate facts, but I am not happy to debate lies. And I think we need to be honest about those facts.

Mr. Blaugrund, I want to move to you. In your comments, you mentioned that investor protections such as segregation of rules between trading venues, market makers, and asset custodians are a hallmark of regulated exchanges. I totally agree. Thank you for making that point.

I would remind us all that your comments, which I think are valid coming from your mouth, are virtually identical to comments that Sam Bankman-Fried made in his characterization of FTX in his prepared testimony here last June.

Because many of those same statements have been made by other crypto exchanges, do you have any way to verify that those other exchanges' statements are any more accurate than the statements made by Mr. Bankman-Fried last June, as it relates to their exchanges?

Mr. BLAUGRUND. With respect to digital asset trading platforms that assert that they have controls in place to enforce consumer protections, I don't know that there is any sort of third-party verification that is available.

Mr. CASTEN. Okay. So, as you know, because you live under these SEC regulations, the current SEC regulations do require ex-

changes and brokers to issue and provide investors and market participants with fair, timely, and accurate information. If the crypto exchanges were subject to those regulations, would you be able to answer the prior question in the affirmative?

Mr. BLAUGRUND. If they were complying with the regulations, then we would be able to answer it correctly.

Mr. CASTEN. For both the exchanges and the brokers, everybody in that ecosystem?

Mr. BLAUGRUND. Yes, sir.

Mr. CASTEN. For my last question, I just want to build on the comment that Ms. Caraveo and others have made. I think we have established the CFTC as the smallest of all of our financial regulators, by staff, and by resources. And look, it is great that we say, let's increase the funding of these organizations, but just to state the obvious, it is never easy to raise the amount of resources that go to fund organizations. If this industry is such a big deal, if it is such a great way to grow wealth, if it is going to be so huge in the future, would you care to speculate why this industry would like to be regulated by the smallest, least well-resourced organization?

Mr. BLAUGRUND. I don't care to speculate, sir.

Mr. CASTEN. I yield back.

Chairman HILL. The gentleman yields back. The gentleman from New York, Mr. Molinaro, is recognized for 5 minutes.

Mr. MOLINARO. Thank you, Mr. Chairman. And I, too, want to acknowledge the fact that the two committees are meeting here today. When I came to Congress, I was one of the few folks who actually wanted to have this conversation. And I just listened when my colleague suggested that this hearing is not about regulations. In fact, it is.

This is an industry that has certainly been pushing the expanses of innovation, creating opportunity to access capital and wealth, and doing so in a way that yes, has enormous risks, we recognize that. But at the same time, it's an enormous opportunity, particularly for those who don't understand or want to or can participate in the traditional banking infrastructure. That is all critically important. I represent a rural community in upstate New York, and we might as well be some banking island in any other place of the world.

And so yes, this hearing is about regulation, in fact, regulation of an industry that is asking us to do something. And I appreciate the testimony we have heard already and the progress that we are making.

My colleague, Mr. Timmons started down the road of talking about distinguishing, I want to get through that, whether or not it is possible for National Securities Exchanges to list Bitcoin and a security alongside each other. Mr. Santori, you started down that road, and I wanted to add to that as a follow-up, is the SEC working with trading platforms to account for those differences?

Mr. SANTORI. I can't speak for other participants in the digital asset industry or ecosystem. We did in fact try to work with the SEC. We had what I thought was good engagement with the staff. I won't go into the details of that, as I think building trust between the industry and its regulators is important. But at a point in those

conversations, they were cut off, and I don't believe that had anything to do with the staff.

So, I can tell you that we tried. I can tell you as an attorney who has represented clients in the industry that other participants have tried, but I don't believe that anybody has really gotten anywhere.

Mr. MOLINARO. Mr. Kulkin, how would allowing an entity registered at the SEC to list a commodity for trading impact the CFTC's existing enforcement authority?

Mr. KULKIN. Congressman, that is a good question. It would be challenging. Right now, commodities are not traded on stock exchanges. They are not traded on alternative trading systems. So, it would create a lot of confusion because currently, the CFTC can only look at the digital commodity spot market for fraud and manipulation. They are limited to enforcement authority only. And if the trading were to take place on an SEC-regulated exchange, it would probably further restrict their ability to conduct that oversight.

Mr. MOLINARO. It was suggested a few months ago that some of this should be addressed through simple adaptation. Is it your opinion that this is just an adaptation?

Mr. KULKIN. I think it is an adaptation in the sense that the CFTC is already monitoring spot commodity markets for fraud and manipulation. But they don't have their full regulatory authority that they have in the futures markets. So, when you think about it that way, it is an extension of the CFTC's jurisdiction to require a registration regulation, examination, and enforcement in a way that is not meaningfully available right now.

Mr. MOLINARO. Mr. Santori, same question. Would you like to add to that?

Mr. SANTORI. No, sir, I think Mr. Kulkin covered it well.

Mr. MOLINARO. Fair enough. For all of you, I want to end where I began. It was suggested that this hearing is not about regulation, but it seems to me that it is. Is it necessary for Congress to move down the path of adequate guidelines and regulation, yes or no?

Mr. DURGEE. Yes.

Mr. KULKIN. Yes.

Mr. SANTORI. Yes.

Mr. SCHOENBERGER. Yes.

Mr. MASSAD. Yes.

Mr. BLAUGRUND. I don't think so.

Mr. MOLINARO. Thank you very much. And I yield back, Mr. Chairman.

Chairman HILL. The gentleman yields back. The gentleman from Texas, Mr. Casar, is recognized for 5 minutes.

Mr. CASAR. Thank you, Mr. Chairman, and thank you to the leadership of the committees and the subcommittees for bringing us together. I want to pick up my line of questioning where my colleague, Mr. Casten, left off on the current state of play and the current rules that we are discussing.

Several courts have determined that many crypto assets indeed meet the Howey Test in our securities. There are some, as we have discussed today, including Bitcoin, that seem to fall under CFTC jurisdiction. My first question is for you, Mr. Santori. Your plat-

form is a cryptocurrency exchange. How many crypto assets are currently on your platform?

Mr. SANTORI. We support roughly 200 assets globally.

Mr. CASAR. Thank you. And of those roughly 200 assets, to your knowledge, how many of them are registered with the CFTC as commodities or with the SEC as securities?

Mr. SANTORI. To my knowledge, none of them are.

Mr. CASAR. Why are none of them registered?

Mr. SANTORI. I can speculate on the basis of the projects.

Mr. CASAR. Sure.

Mr. SANTORI. My belief is that there is no workable registration regime for those projects. Any registration regime laid out in front of them would require the intermediation of things, like a transfer agent that would add nothing to consumer protection and would make the working of those digital asset blockchains untenable. And in your view, does current law allow you to list unregistered securities on the exchange?

Mr. SANTORI. So the question is, does current law allow for us to list unregistered securities on the exchange?

Mr. CASAR. Correct.

Mr. SANTORI. I don't think so.

Mr. CASAR. So, if some of these indeed are securities or indeed are commodities, you wouldn't be allowed to list them if they were unregistered?

Mr. SANTORI. I have to tell you, you are getting into interpretations of existing law, as opposed to testimony that I can give on fact. I would say that Kraken takes great strides in not listing securities. And we do not list securities. We have robust processes in place to vet the assets that we do support. We review every asset for, of course, its business use case and its functional use case. We review assets for cybersecurity vulnerabilities, and, of course, we have a process in place to evaluate these assets as to whether they could potentially fall into either the world of regulated securities or regulated commodity derivatives.

Mr. CASAR. Thank you. I want to ask a similar question now to Mr. Blaugrund. Can the New York Stock Exchange have unregistered securities on its platform?

Mr. BLAUGRUND. We do not.

Mr. CASAR. And what would happen if it did?

Mr. BLAUGRUND. It would be subject to enforcement action, I presume by the SEC.

Mr. CASAR. Right. So, part of what I am trying to understand here as far as the current state of play is that if an exchange wants to be in compliance with the law, it would have to delist any unregistered securities or commodities. And our current laws, as I understand them from several judicial opinions and decisions that I have looked over, are that crypto assets are either securities or commodities, many of them being determined to be securities, and some of them that we talked about today, folks agree are commodities, but very few, and in some cases, none of them are registered with the appropriate agency.

I don't think you have to be a crypto-skeptic or a crypto-enthusiast to come to the conclusion that I am feeling now, which is some level of concern that even under existing rules, there are real

concerns about, do we have folks that should be registered, where we should have protections for investors not registering? And it is hard to think about the path forward. If right now, I could be having this concern.

Mr. Massad, I would love to hear what you think about that?

Mr. MASSAD. I think you are absolutely right, Congressman. If you look at even what the 4 largest platforms today list in the U.S., there are about 400 tokens in total on all of those platforms, and only 60 of them are commonly listed. They are all making different decisions about what is a security or what is not. Now, maybe they are applying other filters on top of what is the security, and maybe they could all get together and say, oh, yes, yes, yes, we believe all 400 are not securities. But I doubt it.

Mr. CASAR. Thank you. I appreciate it. To me, the SEC came out of the Great Depression and that enormous crash, and I think it is so important for us to learn from those mistakes. And as FTX and others have collapsed, we need those kinds of protections to make sure we don't have the intermingling of funds, and to make sure people have recourse against fraud and abuse. We want to make sure we are protecting investors and the fact that right now, I am concerned that the laws aren't even being followed makes this really challenging. Thank you.

Chairman HILL. The gentleman yields back. The gentleman from Nebraska, Mr. Flood, is recognized for 5 minutes.

Mr. FLOOD. Thank you, Mr. Chairman. Mr. Durgee, I want to just state for the record that I was very impressed by your opening statement regarding the standardization and the acceptance of emerging technologies. And I think it is important to remember that we need to look down the road. We need to understand where we are at, and how these things work. We have been discussing the need for regulatory clarity and digital asset regulation for the past few months.

There is no question that in the aftermath of FTX, a company that cheated American investors from the Bahamas, and as some American firms begin to move offshore, an American regulatory regime for digital assets is needed. As it relates to digital assets, I firmly believe that we don't need more regulators. We need a way of clarifying when and where our current regulators should have jurisdiction over the existing market.

In other words, we need to establish, and this is easier said than done, the CFTC lane and the SEC lane within the digital assets space, which is easier said than done. I want to go on the record today, Mr. Santori, regarding Kraken. Does Kraken maintain accurate books and records?

Mr. SANTORI. Yes, we do, Congressman.

Mr. FLOOD. Does Kraken make those documents available to regulators?

Mr. SANTORI. We do on occasion. Yes.

Mr. FLOOD. Does Kraken make appropriate disclosures to customers and ensure that its customer assets are protected?

Mr. SANTORI. We do.

Mr. FLOOD. Okay. Given your answers to those simple questions, what is the best means, in your opinion, by which we can ensure that those steps are all being taken?

Mr. SANTORI. Thank you for the question, Congressman.

I think that the best means is to ensure that digital asset participants are keeping records, and that they are sharing those records when requested by regulators and law enforcement, and to ensure that digital asset participants are being good stewards of their customers with regards to disclosures. We need harmonization across those digital asset providers, a set of clear rules for the road, so that we don't have to guess as to what are those standards and best practices.

One of the reasons why, as you noted, FTX was such a debacle was because it wasn't some small niche exchange that wasn't servicing Americans. It was an exchange that Americans almost had to use because of the environment here in the United States. Americans were driven to FTX because of the lack of standards, here because of the lack of uniform disclosure rules, because we are forced to guess as to what those rules are, instead of building compelling products.

Mr. FLOOD. Thank you, Mr. Santori.

Mr. Kulkin, does the CFTC regularly examine its registrants to ensure that they are keeping adequate books and records, making appropriate disclosures, and ensuring that customer funds are protected?

Mr. KULKIN. Yes.

Mr. FLOOD. A follow-up to that, did any customers of LedgerX, the CFTC-registered clearinghouse owned by FTX, lose any funds because of the FTX implosion?

Mr. KULKIN. Not to my knowledge, no.

Mr. FLOOD. Okay. I think it is important we get a number of these questions on the record. We are trying to solve a problem. We are trying to make it possible for Americans to participate in an economy and in an exchange of framework that is going to be worldwide. And today, I think we got some good answers. I would like to ask one more question to Mr. Kulkin regarding the self-certification process and how it could be applied in digital assets.

Mr. Kulkin, if a commodities exchange attempts to self-certify the trade of a product under current CFTC rules, what does that process look like for the applicant filing the self-certification?

Mr. KULKIN. Currently, if a futures exchange wants to list a product, they have to file the product with the CFTC. They have to include basic commercial components of the contract. And then, they have to provide a pretty lengthy explanation for how that product is not susceptible to manipulation, how the financial resources are in place to facilitate that trading. And for digital assets specifically, the CFTC staff have put in place a heightened scrutiny review that has been in place now for 5 years. And those questions have to be satisfied as well.

Mr. FLOOD. I don't know if I have enough time for the second question on the self-certification, but if the CFTC finds that an applicant's self-certification violates the Commodity Exchange Act (CEA), what recourse does the CFTC have?

Mr. KULKIN. If a submission fails to comply with the CEA and its rules, then the product would be rejected, and it would not be able to be listed for trading.

Mr. FLOOD. Thank you, Mr. Kulkin. I yield back.

Chairman HILL. I thank the gentleman. Ms. Salinas is now recognized for 5 minutes.

Ms. SALINAS. Thank you, Mr. Chairman, and thank you to our Ranking Members and Chairs for bringing us all together to hold this joint hearing. And thank you to our panelists for taking the time to be here today.

Over the course of the conversation, even over the last few months, one area that hasn't really been discussed in the deliberation of how to fill regulatory gaps is the very real and very large impact on climate that the industry is also having. In my home State of Oregon, this has spurred State legislative action to require cutting carbon output.

My question for any of the panelists is, as we grapple with how to regulate the digital asset industry, if, as with other fiduciaries, should we incentivize climate responsibility and penalize carbon emissions from high-energy-use facilities? And if so, do you have any recommendations for implementing a climate-friendly regulatory framework for the digital asset industry?

Mr. MASSAD. Congresswoman, I think the energy usage of certain aspects of the crypto industry is a real cause of concern. It is not something that we would typically address through financial regulation. But that doesn't mean it doesn't need to be addressed. You are right that your State and other States, like New York, have tried to take this on and that may be the path. Certainly, though, beginning with some sort of framework, where we have financial regulation that includes investor protection and that includes disclosure about a lot of these things would be a step forward. And then, one can decide who is the proper regulator to address the energy aspect.

Ms. SALINAS. Thank you. I appreciate that. Does anybody else care to answer? I can move on.

Mr. DURGEE. I will just make a comment that the industry is very aware of that problem and is aggressively moving towards green energy solutions. I think there has actually been, and there continues to be, an extensive amount of innovation in that area, mainly because it is business-ready, right, we are seeing it save money along the lines.

I will give you a real-world example. Flare gas out of oil mines now is being used in order to run Bitcoin mines. It is a company called Crusoe that is particularly indebted, and it otherwise would have been pollution that is being converted into energy to run these facilities. So, I think the need for that is driving innovation.

Ms. SALINAS. Thank you.

Mr. SCHOENBERGER. Congresswoman, I would also like to add that not all are the same. According to a neutral study, Polkadot actually has the least carbon footprint in the industry, and the whole consumption in a year equates to only seven households in Switzerland. So, that makes a difference.

Ms. SALINAS. Thank you. So for many of you, there does seem to be some degree of consensus around needing to regulate based on utility. But what concerns me is that the use cases of crypto assets are still pretty murky. That also seems to be evidenced by the lack of registered securities. Are issuers not able to describe the uses of

their own products or is it that the potential product uses are substantially broad and vague?

Mr. MASSAD. Congresswoman, I think it is some degree of both, but in particular, it is the lack of any kind of regulatory framework that requires disclosure effectively. If you have basically a lot of industry participants claiming what they are issuing is not a security, then we don't have a framework for disclosure. I think the SEC did a great job of going after internet coin offerings (ICOs), where people were just issuing tokens that were securities on the basis of very little disclosure.

There is also the element of exactly what is the use case, sometimes you can't have a token, which it has both the utility, but it is still a security. The SEC recently won a case to that effect, that even though it had a utility component, the token was still a security.

So again, it comes back to needing a framework. What I have suggested is to create a framework where we don't have to rewrite securities laws, but we get at the issues you are talking about.

Ms. SALINAS. Thank you.

Mr. DURGEE. I would love to just add to that very quickly as well that a lot of the disclosure requirements, in particular, into the capital raising components, whether that is Reg. CF or Reg. A+, are quite counterintuitive. If the goal is to find that these assets are decentralized, most of the disclosure requirements are very centralized disclosures. Who is the operating team, and what are the audited financials and business plans?

If these things are run by a community of developers, they don't have that information to disclose. It is just not a viable framework. So, we really need to look at potentially shifting that. That will also bring digital assets into the forefront.

Ms. SALINAS. Thank you. I yield back.

Chairman HILL. The gentlewoman yields back. Mr. Nunn is recognized for 5 minutes.

Mr. NUNN. Thank you, Mr. Chairman. And I appreciate the incredible panelists. This has been a good discussion we have been listening to all day.

The work of both the Agriculture Committee, and the Financial Services Committee, where I have the privilege of serving, is kind of in this nexus space between where we have digital assets floating between what guys in Iowa know very well in commodities trading and guys in Downtown Des Moines know in securities trading.

So, as a simple Iowa guy here, we have a digital asset that falls under the CFTC for all things commodities. But if it is a security, it is going to fall under the SEC.

We just had SEC Chairman Gensler in here, who claims that every token other than Bitcoin is under the SEC's jurisdiction, including a number of the ones that we have talked about today.

In contrast, CFTC Chairman Behnam states that a commodity like, what he called Ethereum, would be under the Agriculture Committee's jurisdiction.

So, Mr. Kulkin, I am going to talk with you first based on your background at the CFTC. One of the simple questions that we asked before is, is Ethereum a commodity or is it a security?

Mr. KULKIN. I think it is a commodity and I say that because there are futures contracts trading on Ethereum just like soybeans or different gas or energy products.

Mr. NUNN. Okay. That is good to hear, because I think we have had a lot of people who have talked about it in both ways.

My point here is that it is not clear under the current structure to be able to truly know where Ethereum should be traded, or other entities like it.

I am going to ask you, given your experience at the CFTC, would you pose the same question on, let's see here, does the CFTC or any other Federal regulator registere commodity listings? Let's go back to this question on commodity listings. Does any Federal regulator register commodity listings?

Mr. KULKIN. No, I don't believe so.

Mr. NUNN. And let's talk about specifically—there was some conversation earlier about spot commodities listings.

Why or why not do we list that?

Mr. KULKIN. There is no Federal regulator tasked with overseeing the digital commodity spot market right now.

Mr. NUNN. Right. So, we are in this open space.

Let me ask Mr. Santori, you highlighted a great conversation here. In my opinion, the unique elements of crypto being a bipartisan issue, collaborating on tough subjects, not only is it bicameral, but you are seeing in here that it is across multiple committees of jurisdiction in the United States.

One of the issues that is most important to me is ensuring that bad actors don't attempt to utilize this crypto to evade enforcement. And that is why I partnered with Representative Himes in introducing the Financial Technology Protection Act, which would bring regulators and industry leaders together to ensure that we have standards and regulations that were just highlighted in some places as currently lacking.

In your view, how would such a collaboration be helpful, not only to regulators, but to the industry writ large?

Mr. SANTORI. Thank you for the question, Congressman.

We applaud that effort. I should say right out the gate that I think what we are here today asking for is clear rules of the road that would allow us, as a global organization, to be able to prepare to make additional reporting to the CFTC and the SEC.

We would have clear guidelines on what information to record about our customers and about the transactions that occur on our platform. We would have guidelines on how long to keep it. We would have guidelines on how to share it. It is often lost in the shuffle, but the mundane details around actually sharing this much information with multiple regulators is probably the bulk of the discussions that we have today, when we work with law enforcement.

Kraken makes literally thousands of reports to regulators in the United States and around the world. This can be a daunting task without clarity.

Mr. NUNN. We have seen other entities work on this. The E.U. and the U.K. are developing this area, but in the United States, we are still talking through a very complex conversation.

But to your point specifically, recently, the CFTC enforcement action against the foreign exchange, the CFTC alleged in that case that the foreign exchange's compliance efforts are a sham and that the company deliberately chose over and over to place profits over the law.

Mr. Santori, how does your firm differ in the compliance perspective compared to foreign exchanges with a bad record of compliance?

Mr. SANTORI. Thank you for the question, Congressman.

We do differ, and we differ dramatically. Unlike foreign exchanges, as you heard me say earlier, we make abundant reporting to law enforcement. We KYC every single user, unlike some other exchanges, where——

Mr. NUNN. Mr. Santori, thank you. I want to be able to highlight here that you are doing it the right way.

My concern is that, if we don't have clarity in this space, we are going to allow bad actors to continue to operate outside.

With that, I yield my time back to the Chair. Thank you.

Chairman HILL. The gentleman yields back. The gentleman from New York, Mr. Torres, is recognized for 5 minutes.

Mr. TORRES. Thank you, Mr. Chairman. Here in Congress, we have what I would describe as an anti-crypto derangement syndrome that clouds clear thinking about crypto regulation, and although there are too many myths to dispel, I will take this occasion to address a few of them.

Myth: A statutory framework for crypto would undermine 9 decades of securities law. Fact: The New York State Department of Financial Services (DFS) has an alternate framework for regulating virtual assets. And far from undermining securities regulation, DFS has shown itself to be the most-rigorous regulator of crypto in the world.

Myth: There is no need at all for the SEC to provide regulatory clarity and guidance, and calls for clarity and guidance are nothing more than a pretext for evading lawful compliance. Fact: Even the Investor Advisory Committee, which favors Gary Gensler's approach to enforcement, concedes that there is, in fact, a need for regulatory clarity, "The SEC should consider issuing a request for comment regarding areas where additional guidance is needed related to the application of Federal securities laws to crypto assets."

Myth: It does not matter at all if crypto is driven offshore. Fact: Offshore, deregulated, over-leveraged companies, like FTX, carry the greatest risk of losing customer funds, a point that Gary Gensler himself did not dispute when pressed under questioning.

Myth: Registration with the SEC is just a form on a website. Fact: The notion of registration as just a form on a website is patently false. So false, in fact, that it would come as a shock to all of the securities lawyers and companies spending millions of dollars on SEC registration and compliance.

Myth: The SEC has the right to crack down on crypto because the technology has no utility, and it does more harm than good. Fact: The SEC is statutorily designed to be a merit-neutral regulator. Even if the SEC Chair were as omniscient as God himself, they nonetheless have no statutory authority to impose their personal judgement about the merits of crypto and blockchain on those

of us who disagree with them. The SEC's only role is to correct information asymmetries and mandate disclosures to protect investors.

One can imagine a digital asset that begins as a security, but then over time morphs into something else as it becomes decentralized. Ether, for example, was arguably a security at the time of the ICO, but then arguably became a commodity as it became decentralized.

If a digital asset no longer has a central team from whose efforts investors expect to derive the profit, should there be a process by which that digital asset transitions from securities regulation to commodities regulation? Mr. Kulkin, do you want to take a shot at that?

Mr. KULKIN. Congressman, first, thank you for your remarks. I agree with your sentiment. I think about these issues, being a former markets regulator. And it is really not so much whether I think that there is merit to the product, but that more participants need to be able to come in and know that the market has integrity, that there is no fraud, there is no manipulation, and activity is being surveilled. In terms of transitioning from a security to a commodity, I mentioned this earlier, there is sort of the obvious two endpoints, a token being issued for capital raise and something that is a good or an article that is relatively fungible.

The point at which something transitions—it really is challenging to identify that specific inflection point. We can look at the different characteristics of the security——

Mr. TORRES. You would agree that whatever regulatory framework we develop, would have to delineate that process?

Mr. KULKIN. Absolutely. Yes, sir.

Mr. TORRES. But you have no clear sense of how that process should unfold?

Mr. KULKIN. It really depends on the facts and circumstances. We have talked today about how these products and these markets are different than traditional debt or securities or equities. And so, I am reluctant to point out a clear, bright line here.

Mr. TORRES. We typically, maybe with the exception of stablecoins, which we think of as a currency in the strictest sense of the word, think of digital assets as a binary, either a commodity or a security.

Are those two categories exhaustive or are there other categories that we should keep in mind? I see you waving your hand, so let's——

Mr. MASSAD. Congressman, first of all, something can be a commodity under our laws, such as Ether, by virtue of the fact that there is a futures contract traded on it, but that doesn't necessarily mean it is not a security. You can have something that is both.

And the question for a lot of these tokens is, is there still that enterprise behind it that is affecting its value? I am not saying Ether is still a security. But I am saying those questions still exist. And yes, we need a transition. It is really a transition from when should all the securities laws that go to capital-raising stop applying, because you really don't have an entity behind it and an enterprise behind it. We should have a process that addresses that.

Chairman HILL. The gentleman yields back. Mrs. Houchin is recognized for 5 minutes.

Mrs. HOUCHIN. Thank you, Mr. Chairman. And thank you to the panel.

Establishing a clear and thoughtful regulatory framework isn't just important for the digital assets and technologies that already exist. By creating much-needed clarity, we would be facilitating the development of blockchain, expanding the potential uses of all sorts of tokens, and creating safeguards for new technologies created by innovators here in the United States.

I have said before in the Financial Services Committee that I view the digital assets as the new space race. Like the challenges of the last century, there is no reason why the United States should not lead the way.

Mr. Schoenberger, I would like to ask about distributed ledger technology. Distributed ledger technology has been described as a foundational technology, like the internet or electricity, in which the adoption of the technology is gradual, incremental, and steady, but utterly transformative to society and the economy.

What does this idea tell us about the future of distributed ledger technology and the digital assets that power them?

Mr. SCHOENBERGER. Thank you very much for the question, Congresswoman.

I think the comparison with the internet is the best one here, because if we look back, what made the internet really take off were the open standards and protocols that were enabled by a framework of regulation that allowed this. That framework tries to understand the potential of these technologies and cater to them.

We think that Web3 technologies offer the same potential benefits. And we also think if we are evolved there where, like the internet was 25 years ago. So, no one knows what will come from this, but the potential is huge. And what we need is certainly legal certainty around these questions.

I would very quickly like to comment on what Congressman Torres mentioned, because that was exactly our journey here. We tried to go to a process, together with SEC staff, from a security that DOT once was when we sold that for fundraising purposes, to a non-security.

And while that process sort of worked, it took 3 years, and still after putting in all that effort, the Web3 Foundation, in the end, was left without any tangible validation in its hands. So, this very clearly shows that we need a wise legal statute.

Mrs. HOUCHIN. Thank you. And switching to our securities laws, the ultimate purpose of U.S. securities laws is to solve for the problem of information asymmetry. Thus, if an existing disclosure regime is not producing information that is valuable to digital asset purchasers, the ultimate purpose of U.S. securities laws is in fact, not being met.

Mr. Durgee, and then Mr. Santori, do you agree with this characterization?

Mr. DURGEE. Very much so, yes.

Mr. SANTORI. Yes, Congresswoman, I do.

Mrs. HOUCHIN. And for you both, how can we create a disclosure regime that will actually solve the problem of information asymmetry?

Mr. DURGEE. I will go ahead and start?

Mr. SANTORI. Sure.

Mr. DURGEE. I think you are hitting the nail right on the head that we are in a situation that is extremely problematic. The disclosure regime is contradictory. And it makes it incredibly difficult to build a business in the United States with that level of contradictory regulatory frameworks.

So until those disclosures are made clear, we are going to continue to have a lot of ambiguous frameworks that companies are trying to build on, which is ultimately why they are leaving the United States and moving offshore.

Mr. SANTORI. I would add that, in fact, there is precedent here. the Markets in Crypto-Assets Regulation (MiCA) that is developing in Europe lays out clear disclosure rules. And they put those disclosure rules on the people who are best-suited to make those disclosures, the projects themselves. They require exchanges like us to make those disclosures available to our users, and it is a sensible approach. It is tailored to the actual risks of digital assets. We are encouraged by it.

Mrs. HOUCHIN. And finally, in 2020, the Federal Reserve Bank of San Francisco determined that one in eight Americans purchased these digital assets. The study also found that Americans would strongly prefer to engage with digital assets through regulated institutions. These statistics make it clear that digital assets are here to stay and that Americans want to engage with the digital asset ecosystem in a safe manner.

Mr. Kulkin, Mr. Durgee, Mr. Santori, given these statistics, how important is it that Congress act to establish a well-regulated digital asset marketplace?

Mr. DURGEE. Every day that we don't act, we continue to fall behind all of the other jurisdictions that are not only moving past us, but accelerating.

Mr. KULKIN. I think it is very important. And I think we can draw from the experience of the Dodd-Frank Act, where jurisdiction was shared between the SEC and the CFTC in a successful way.

Mr. SANTORI. I agree. And moving forward now allows us here in the United States, Kraken, to plan for the future, which is coming quickly.

Mrs. HOUCHIN. Thank you. I yield back.

Chairman HILL. The gentlewoman yields back. Mr. Nickel is recognized for 5 minutes.

Mr. NICKEL. Thank you, Chairman Hill. Also, thanks to Chairman Johnson, Ranking Member Lynch, and Ranking Member Caraveo for holding this hearing, and thanks to our witnesses for joining us today. I know you have been here for quite a long time.

Maybe this is too soon, but I am glad to see a member of the House Financial Services Committee with the gavel today, and I'm very glad to be in this committee room, which is very convenient for me because my office is literally across the hall.

We need to work together in a bipartisan way to develop a framework for regulating digital assets, so that we can protect our constituents and harness the benefits of this technology. Burying our heads in the sand is not an option, as inaction will only serve to exacerbate the risks associated with this rapidly-evolving asset class. You can't expect a law written almost 100 years ago to seamlessly work with this new technology.

Mr. Durgee, my first question is to you. I have to say, I am also an attorney, so you are surrounded by us. But Mr. Durgee, could you please talk more about the rules and requirements for securities exchanges that are incompatible with blockchain technology and how you would improve them?

Mr. DURGEE. Yes, security exchanges are evaluating blockchain now. In fact, they are implementing it in a number of cases.

The problem that we are just going to continue to run into is there is a risk factor that they are going to deal with in determining how much they want to expose their business to it. Until there is a clear regulatory framework for those exchanges to build on, particularly within the United States, they are going to be limited in their capacity to innovate and roll out more holistic products.

Mr. NICKEL. Thank you.

Mr. Santori, SEC Chair Gensler has consistently said that crypto companies need to, "come in and register." I would like to learn more about what that process actually looks like. In your role as chief legal officer at a crypto exchange, have you tried registering at the SEC, and what has that experience been like for you and other exchanges?

Mr. SANTORI. Thank you for the question, Congressman. It has been repeatedly stated that cryptocurrency and digital asset companies should just come and register, but it is just a form on the website. It is not. It is unclear to us, and I believe it is unclear to the regulators as well, just what registration means for a digital asset exchange and for, I would say, every meaningful provider in the digital asset ecosystem.

Registration is typically the filing of an S–1 statement, which is the form by which companies spend millions of dollars and many years to go public and become a public company. Frankly, there are a number of securities practitioners in the room, and I think we would all be lying if we said we had any idea how that could possibly work for the products that digital asset companies offer today. There is no realistic path to registration under the existing regime.

This is why we are here today to say that Congress ought to act to clarify that path, to give regulators the tools that they need to foster this ecosystem to create fair and efficient markets.

This is not 2015. This is not 2012, when I first got into this industry. This is not a question of education. The regulators are just as smart. They are just as educated. They are just as up-to-the-moment as the rest of the ecosystem lawyers. This is a question of tools.

Mr. NICKEL. And when SEC Chair Gensler was here last month, he couldn't say whether or not Ether, one of the most-traded cryptocurrencies, is a security . We spent a lot of time talking about that.

When you are evaluating whether digital assets are securities before listing them on your platform, what's your process and would clarity from the SEC help?

Mr. SANTORI. Thank you for the question, Congressman.

We do have a robust vetting process for all assets that we support on our exchange. It includes an assessment of the business use case for these assets. I talked about one of them earlier today. It involves a cybersecurity audit. Many of these assets exist as smart contracts on publicly-auditable blockchains. It is one of their benefits. And of course, we evaluate these assets for whether or not they would fall under any particular regulatory regime in the United States. But the reality is that exchanges do not come out on the same side of that analysis 100 percent of the time. They should be able to.

Mr. NICKEL. Thank you so much. And I yield back the remainder of my time.

Chairman HILL. The gentleman yields back. The gentleman from Illinois, Mr. Jackson, is next. You are recognized for 5 minutes.

Mr. JACKSON of Illinois. Thank you, Chairman Hill, thank you to the ranking members, and thank you to the panelists for coming out today.

I have a concern, being from Chicago, the Illinois first district, where we have the Chicago Mercantile Exchange, the Chicago Board of Trade, and the Chicago Options Exchange Board. I would like to see this technology continue to stay housed in the United States of America to make sure that we have a competitive edge. And I am concerned about MiCA and the platform of regulatory framework that has been negotiated out across the European Union. It seems like we are lagging behind.

What is it that we can do to make sure, with all alacrity and due speed, that we can keep this where the world looks at this as the safest, deepest, best marketplace to continue to invest in crypto and innovate this technology?

Anyone is certainly welcome to answer.

Mr. DURGEE. Yes, I can start. If you are scared of what is happening in Europe with MiCA, you are going to be terrified when you see the U.K. regulations come out next, which are going to have substantially more weight and be far more robust.

So as we start to look at all of the different jurisdictions, whether it is the U.K. or the European Union, as far as MiCA, and I had mentioned VARA, Singapore MAS, Tokyo, et cetera, collectively, they are looking at what each one of them is rolling out and figuring out how they are going to be able to work together to ultimately move this industry forward.

This might be the first time that we see an emerging technology that ends up finding its way outside of the United States predominantly, and a technology that is still very nascent. As I mentioned, it has only been around now for 13 years, but is growing and accelerating at a pace that we really haven't seen before.

So, I caution everyone here that if we don't move forward, and we don't do something, and if MiCA is something that you are worried about, the next book to drop is going to be pretty severe.

Mr. MASSAD. If I may add, I think there are a lot of reasons why we have the strongest capital markets in the world and the strong-

est financial system regulation as part of that, but there are a lot of other factors that contribute to it. So, I think it is important not to exaggerate the risk here. We clearly do want to put in place a regulatory framework. But I am not that worried yet about the U.S. losing its leadership ability in a lot of these areas.

On the regulatory framework, there is going to be interpretive issues under MiCA as well. Frankly, when you look at MiCA, it applies to crypto assets and it excludes anything that is a financial instrument. Their definition of a financial instrument includes sort of what we define as a security, so they are going to have some interpretive questions there, too. I think we need to move forward with a sensible regulatory framework, but let's not get too worried about losing our edge yet.

Mr. JACKSON of Illinois. My concern following up on that, if you would, is that we look at the weakened collapsed of SVB, or look at Republic, these assist the bank run of of someone who is standing outside around the corner. These are people who are picking up their phones and pulling out $100 billion in a day, or in 2 days. So, I do think that there is a certain heightened sense of urgency. I'm sorry, Mr. Durgee?

Mr. DURGEE. I was just going to comment that we are talking about the U.S. as a financial superpower, and I don't think that is going to change. What we really need to be talking about is from the innovation perspective, the technology components that are going to be leaving the U.S. and developing other technologies outside of potential financial frameworks that the U.S. will not own. That is the area that we are certainly the most concerned about. In my opening testimony, I discussed that we are going to talk about the speculative nature of the industry, and that is all well and good. But the technological innovation component is the area that we really can't forget.

Mr. JACKSON of Illinois. I yield back my time. Thank you, Mr. Chairman.

Chairman HILL. Thank you, Mr. Jackson. Mr. Green of Texas is now recognized for 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman. I thank the witnesses for appearing as well. And I will apologize if I should say something or ask a question that offends anyone, but I tend to deal with the sensitive issues. And today, having been a litigator, I find it necessary to utilize a technique that we employ when selecting a petit jury, a process called voir dire or voir dire depending on where you are from. In Texas, we say voir dire. It is a French term that we should speak the truth. So, let's proceed with this process of raising hands.

Let's start with this, and I regret that we have lost a member of the panel, to be quite candid. He is back. Very good. We talk a lot about diversity and inclusion and how this will be a part of this new era of technology that will make millionaires and billionaires. And I would like to ask you a few questions about diversity and inclusion.

Does it include both males and females, diversity and inclusion? If you think so, raise a hand so that I don't have to ask each one of you. Do you think it includes males and females?

[Hands raised.]

Mr. GREEN. Okay. Let the record reflect that all hands were raised, that would be two, four, six hands up. Do you define yourself as a female, and if so, kindly extend a hand into the air?

[No response.]

Mr. GREEN. Let the record reflect that none of the witnesses would be defined as a female. Do you know any females who would be capable, competent, and qualified to sit on this panel?

[Hands raised.]

Mr. GREEN. One hand is up already. There, there. They all know females who would be capable, competent, and qualified to sit on this panel. Would they bring something to this debate that would be not only of interest, but that would be beneficial to what we are trying to accomplish?

[Hands raised.]

Mr. GREEN. Hands up. All agree. Now, does diversity and inclusion include people of color? Raise your hand if you think so.

[Hands raised.]

Mr. GREEN. Let the record reflect that they all think so. And do you know any people of color who would be capable, competent, and qualified to sit on this panel? Hands up, please. Nodding of heads won't do.

[Hands raised.]

Mr. GREEN. Let the record reflect that all hands have been raised. I am asking these questions because unfortunately, we tend to see diversity and inclusion at the end of a process. I think it starts right here today with you. But I don't have time to go on with this. Let's go to another area that is exceedingly important. It has been said that whether the SEC or the CFTC is empowered to do this, there will be a need for additional tools. That is what has been said by Mr. Santori. Let's talk about additional funding. I think Mr. Massad, you have said as much, additional funding.

It appears to me that my colleagues would propose cuts to align 2024 with the 2022 Fiscal Year levels. And in so doing, this would impose a $91-million cut of about 22 percent. Mr. Massad, would such a cut hurt the CFTC and its functionality?

Mr. MASSAD. Absolutely.

Mr. GREEN. Would it hurt the SEC if it is cut?

Mr. MASSAD. Absolutely.

Mr. GREEN. Do you think that there will have to be an increase regardless of how this is done, that there will have to be some increase in funding?

Mr. MASSAD. Yes. If you are going to increase an Agency's duties and responsibilities, you need to give it additional resources to do that.

Mr. GREEN. Okay. I have 18 seconds left. If you agree with Mr. Massad, would you raise your hand please?

[Hands raised.]

Mr. GREEN. So, Mr. Santori, you don't think that there would have to be any additional funding?

Mr. SANTORI. No, that is not what I am saying.

Mr. GREEN. But that is my question. Do you think that there would have to be additional funding?

Mr. SANTORI. I think it would depend on the jurisdiction that ultimately was granted to the SEC and the CFTC. There could very well be areas where that jurisdiction ought to be changed.

Mr. GREEN. I'm sorry that I can't pursue this more, but thank you, Mr. Chairman, and I yield back.

Chairman HILL. The gentleman yields back. Mr. Sherman of California is recognized for 5 minutes.

Mr. SHERMAN. I want to thank Mr. Green for pointing out the need for diversity in gender, ethnicity, and race. We also need diversity in viewpoint. We have a whole panel here, none of whom have said, the basic question is, should we allow cryptocurrencies to go forward in the United States?

The purpose of our capital markets for working American families is to finance factories and businesses where they can work at blue- and white-collar jobs and create products that help them in their daily lives.

The purpose of our capital markets is to harness the animal spirit, the willingness to invest and get into funding housing and factories and jobs. What this does is it diverts that to a new, hidden money system. It says so right in the name: "Cryptocurrency," literally means, "hidden money." And to create a tool that is and has its announced purpose by its most-prominent supporters to defeat our sanctions laws, to defeat our tax laws. And it is not that all of you who are in this industry are unwilling to abide by our sanctions laws and our tax laws. It is simply that you think you can make billions of dollars by building a valuable tool for those who do want to cheat on their taxes and do want to evade our sanctions laws and our money laundering laws.

We are told, oh, we are afraid of missing out, other countries could get ahead of us. Peru is ahead of us in cocaine cultivation, China is ahead of us in organ harvesting, and the Cayman Islands is ahead of us in innovative tax haven fraud. I do not see the need to catch up. We speak as if this whole idea of creating tools that will turn the income tax into just a tax on wage earners and make it voluntary for the very rich as something new because this industry uses the internet. It is nothing new.

We had tax-evasion tools last century, and we blocked them. The most-valuable tool was the multibillion-dollar bearer bond. One piece of paper earns interest, totally untraceable. And we prohibited people from issuing them. We, of course, have a $100 bill, and it is worth $10 from what it was 100 years ago. The $100 bill, the bearer bond are no longer good tools for tax evasion. We need a new one, and you can make billions of dollars if you can create it.

All of the money and power in this town is on the side of the crypto billionaire bros. There is no lobbyist in this town. There is no executive. Nobody is making a million dollars to advocate for tax enforcement. Nobody is being paid to make sure that we enforce our sanctions laws and our money laundering laws, at least not to be lobbyists and not to make millions. And I think it was Mr. Casten who reminded us of Sam Bankman-Fried. He still haunts these halls. His purpose was to give a patina of regulation to this industry by defeating the SEC's efforts. I don't want to say that I am against blockchain. It is an accounting system. I am against

multimillion-dollar bearer bonds. I am not against paper, and I am not against ink.

Mr. Massad, if many of these crypto tokens are securities, many of those sold on exchanges are securities, if in any other field of our capital markets, you had an unregistered exchange where you could buy and sell unregistered securities, wouldn't that be a violation of just about every securities law we have?

Mr. MASSAD. Yes, sir. That would be a problem.

Mr. SHERMAN. So why is it that the SEC that would immediately shut down a stock exchange where you had unregistered stock being publicly sold, seems unwilling to enforce the law in this area, whereas certainly, if it was stocks and bonds, they would enforce it immediately? Can you explain why they are not enforcing it?

Mr. MASSAD. I think the SEC has brought a number of enforcement cases. I think it is important to remember——

Mr. SHERMAN. But they haven't shut down the businesses that are represented here. And if these businesses were doing unregistered equity securities, they shut them down.

Mr. MASSAD. I can't comment on——

Mr. SHERMAN. It just shows the power of the billionaire bros. And I yield back.

Chairman HILL. The gentleman yields back. I now recognize the Chair of the full Financial Services Committee, Mr. McHenry from North Carolina, for 5 minutes.

Chairman MCHENRY. I want to thank the panel. And I want to thank the Agriculture Committee members, and the Financial Services Committee members for a vibrant discussion today.

I think one thing that was talked about was the efforts of other countries. And Mr. Schoenberger, what does it mean for the U.S. and Americans that the U.K. and the European Union are ahead of us on regulatory structure for crypto? What does that mean?

Mr. SCHOENBERGER. Thank you, Chairman McHenry. I would add Switzerland to this, because that is simply where the Web3 Foundation is at home. I said this before here, it was a very deliberate decision of the foundation to be headquartered there because of the——

Chairman MCHENRY. What does it mean for the United States and Americans that we are behind in a regulatory structure here?

Mr. SCHOENBERGER. I can only speculate what others would do. But if the foundation perceives it that it might be better to be somewhere else, others might think that, too.

Chairman MCHENRY. So the innovation happens somewhere else, the value accrual and the jobs accrue somewhere else. Mr. Kulkin, and Mr. Santori, based on discussions today, what are the most important next steps that Congress can take and is there any urgency?

Mr. KULKIN. Chairman McHenry, I think in terms of incremental next steps, clarity from Congress that the CFTC has oversight over digital commodity spot markets would bring a number of protections to those markets and participants, things like segregation of customer funds, clarity on treatment of customer property in the event of a bankruptcy, and surveillance of the market activity. Those, in my mind, are the next logical steps here.

Chairman MCHENRY. Okay. Consumer protection, fostering innovation, the tandem?

Mr. KULKIN. Yes.

Chairman MCHENRY. Okay.

Mr. SANTORI. I agree with those themes. I would say specifically a functional standard and a process for drawing clear lines between the SEC and the CFTC, a workable registration path for exchanges, like Kraken, clarification that the CFTC does have oversight over spot markets, and, of course, putting in place workable transition arrangements for exchanges like ours and other participants.

Chairman MCHENRY. Is there urgency, in your view?

Mr. SANTORI. I view this as urgent.

Chairman MCHENRY. Why?

Mr. SANTORI. We cannot plan. We cannot plan how to put in place the tools, processes, and procedures that we use to protect consumers, and make reporting to law enforcement. Mr. Chairman, we cannot plan to hire new personnel to expand our physical presence to develop software tools.

Planning is key for us. We have been around for 11 years. We plan to be around for a lot longer than 11 more.

Chairman MCHENRY. On that lack of planning, what does that actually mean, because you are talking about your problems. Tell me about the American people's problems if this is the case. What are we missing out on? Consumer protection is what we are missing out on, number one. There is no clarity of this stuff. There are no clear rules of the road on whose rights there are for these assets. There is a lack of clarity.

Mr. SANTORI. That is right.

Chairman MCHENRY. The lack of clarity doesn't mean better things for the consumer. Is that fair?

Mr. SANTORI. That is right. It means a worse environment for consumers. We cannot build the tools that we need to protect them. We cannot invest to——

Chairman MCHENRY. So if my colleagues think that there is nothing to the digital assets, there is nothing to be valued from there, that there is nothing from an open permission-less exchange, it is visible to all, and law enforcement can track, there is no value of that.

You would still want to have consumer protections, you would still want to have the rule of law here to make sure there is enforceability of rights and protections of consumer's property, even if you hated it. And if you love it, then you are missing out on the innovation, the job creation, the technical transmission of new value.

Okay. So, what are the takeaways today? I think to recap on today, a couple of things are clear. The current Securities and Exchange Commission approach to disclosures doesn't work for digital assets. It doesn't conform with the nature and properties of digital assets.

The CFTC needs additional authority over non-security digital assets. The Securities and Exchange Commission needs to modify its rules for broker-dealers and securities exchanges. Those things

have to happen because the CFTC and the SEC alone can't do this. Congress must act. And it is imperative that we do act.

And this committee will act. I want to thank Chairman Hill for his leadership, and the bipartisan cooperation we have had on these subcommittees and these committees of jurisdiction.

With that, Mr. Chairman, I yield back.

Chairman HILL. I thank the chairman for yielding back.

I would like to ask for unanimous consent to submit for the record an investigation summary of what this committee has done thus far as it relates to investigating the collapse of FTX.

Without objection, it is so ordered.

And I would like to say that a couple of takeaways I have from listening today is that I have heard from the panel that we are not tying the hands of the SEC or the CFTC. In fact, just the inverse, we are trying to provide clarity and direction and statutory authority for those agencies to do their job and do it more effectively. And that, in turn, clears up the confusion.

For example, the *Binance* case has that there is confusing statutory jurisdiction between those two Agencies. And what a great way to summarize it by the fact that we have had a collaborative joint hearing of the House Agriculture Committee and the House Financial Services Committee to illuminate exactly those points and the need for a framework to be put in place.

I want to thank my colleagues for their participation today on both sides of the aisle and in both committees. And I thank the Ways and Means Committee for allowing us to slum here in their beautiful facility.

Without objection——

Mr. SHERMAN. Mr. Chairman, will you yield for——

Chairman HILL. I will yield to my friend from California.

Mr. SHERMAN. I will just point out, if we want clarity, let's just make it clear, and the industry should lobby for this, that the SEC has full jurisdiction. If the CFTC wants to have full jurisdiction, that is fine. I can't think of an industry more in need of double regulation rather than zero——

Chairman HILL. I thank the gentleman. I am reclaiming my time.

The Chair notes that some Members may have additional questions for this panel, which they may wish to submit in writing. Without objection, the hearing record will remain open for 5 legislative days for Members to submit written questions to these witnesses and to place their responses in the record. Also, without objection, Members will have 5 legislative days to submit extraneous materials to the Chair for inclusion in the record.

This hearing is adjourned.

[Whereupon, at 12:47 p.m., the hearing was adjourned.]

APPENDIX

May 10, 2023

TESTIMONY OF MICHAEL BLAUGRUND

CHIEF OPERATING OFFICER, NEW YORK STOCK EXCHANGE

BEFORE THE U.S. HOUSE OF REPRESENTATIVES FINANCIAL SERVICES COMMITTEE'S SUBCOMMITTEE ON DIGITAL ASSETS, FINANCIAL TECHNOLOGY, AND INCLUSION AND THE HOUSE AGRICULTURAL COMMITTEE'S SUBCOMMITTEE ON COMMODITY MARKETS, DIGITAL ASSETS, AND RURAL DEVELOPMENT

"THE FUTURE OF DIGITAL ASSETS: MEASURING THE REGULATORY GAPS IN THE DIGITAL ASSET MARKETS"

MAY 10, 2023

Subcommittee Chairs Hill and Johnson, Ranking Members Lynch and Caraveo, Chairs McHenry and Thompson, Ranking Members Waters and Scott, and distinguished members of the Subcommittees, thank you for the opportunity to testify today on the regulatory future of digital asset markets. My name is Michael Blaugrund and I am the Chief Operating Officer of the New York Stock Exchange. The New York Stock Exchange is the world's largest equities exchange. In aggregate, companies listed on the NYSE represent approximately 30% of global public market value and employ more than 43 million people worldwide. National securities exchanges, such as the NYSE, serve a fundamental role in the capital markets ecosystem by providing a forum for companies to raise money as well as a venue for investors and other market participants to buy and sell the securities of public companies at transparent prices in a fair and orderly manner.

Next week, the NYSE will celebrate the 231st anniversary of the signing of the buttonwood agreement, the foundational document that established our Exchange. For more than two centuries since, the NYSE has worked continuously to perfect our markets and maintain the United States' position as the envy of global capital markets. In advancing this mission, we have focused on utilizing innovative technology to enhance our nation's vibrant markets and remain competitive around the world. I am here today to share some perspective from our experience.

Regulation for the Digital Assets Markets Should Foster Transparency and Trust

Although technology evolves over time, the obligation to protect investors does not. Whether trading occurs via open outcry, over telegraph, through pneumatic tubes or pursuant to complex

algorithms, the public rightfully expects that their assets will be protected from fraud, theft and manipulation. The regulatory framework governing national securities exchanges brings transparency and a trusted environment for issuers and investors alike to participate in our financial markets. At the NYSE, we believe that investor confidence underpins the strength of the U.S. capital markets.

As investors increasingly seek exposure to digital assets, it has never been more important to develop a regulatory framework around digital assets that protects the public. This is not unlike the problem that Congress faced nearly 100 years ago that led to the establishment of the Securities and Exchange Act to address these same policy objectives.

So, how best to protect public investors who seek to engage in the digital assets market? The lesson to be drawn from more established markets is clear: the segregation of key functions within the financial markets ecosystem -- brokerage, exchange, clearing, and custody -- mitigates inherent conflicts of interest, promotes transparency, and facilitates competition amongst service providers. This, in turn, benefits investors and results in a more fair, efficient, and safe environment.

When investors trade on the New York Stock Exchange, they are represented by registered broker-dealers whose trades are cleared and settled by registered clearinghouses and whose assets are held by registered, bankruptcy-remote custodians. Investors have recourse if they are harmed by any of their service providers and multi-lateral clearing reduces counterparty risk. By comparison, some current day digital asset trading models, as witnessed with the collapse of FTX, co-mingle the functions in a way that raises serious questions of risk management, financial resources, and investor protection.

We believe that if investors could trade digital assets in a similarly regulated exchange environment, many of the problems we have seen in the last year would not have occurred.

Competition among securities and commodities exchanges is fierce and new entrants are a regular occurrence. There is a well-established process to launch a registered exchange, whether one with a unique listing concept, a unique trading protocol, unique operational features, or a unique market segment. To date, however, we have not seen a digital asset trading platform follow this well-worn path.

Regulatory Certainty Will Bring Discipline to the Digital Assets Market

There is a dissonance between much of the current digital asset industry's practice and the standards of investor protection established under the law and regulation for traditional markets. Resolving this disconnect would provide institutional and retail market participants the ability to engage in digital asset transactions with the same confidence they have when buying or selling an equity security on a U.S. stock exchange. Some have argued that the rules and regulations should be relaxed to accommodate current crypto practice, while others have asserted that the market for digital assets must adapt to existing standards.

Congress can determine its preferred course of action. It is our belief, however, that the exchange regulatory framework represents an established and well-known foundation that can be adjusted to accommodate the marketplace for digital assets. In this regard, there are several steps that can be taken by government agencies that would facilitate practical oversight for digital assets:

- provide a tailored registration process for investment contract tokens.
- refine the SEC conditions for Special Purpose Broker-Dealers with a more permanent solution.
- provide regulatory relief for exchanges seeking to trade securities or other digital assets that are not considered national market system securities.
- permit adjustments to applicable clearinghouse rules to accommodate the clearing of digital asset tokens.
- evaluate reciprocity for (i) SEC-registered broker-dealers, market centers and clearing agencies and (ii) CFTC registered FCMs, DCMs and DCOs so that they can effect transactions in commodity tokens.

The debate over regulatory jurisdiction for digital assets is vigorous and it is encouraging to see your two esteemed Subcommittees working together to consider these important questions. While we recognize that digital assets offer a unique investment opportunity from traditional securities, we believe there is a significant benefit to utilizing the existing framework for public securities trading and extending it to digital assets.

Ultimately, both the SEC and CFTC's willingness to embrace dual-registration or substituted compliance, as the agencies have permitted in other contexts, may also be critical to the success of developing a transparent and trusted market for digital assets. Coordination

between the two agencies would work to mitigate the costs, burdens and uncertainty that can arise when more than one regulatory regime is implicated. For a dual-regulatory framework to yield real results, however, the agencies must be committed to a shared set of objectives, even if they ultimately seek to achieve those objectives via different means.

American capital markets have long benefited from evolving within the parameters of well-established rules. Our experience over the past 231 years is a testament to the ability of market participants to promote investor protections while adapting to technological innovation.

I would be happy to answer any questions. Thank you.

WRITTEN STATEMENT OF

ANDREW DURGEE

EXECUTIVE VICE PRESIDENT, OPENDEAL INC. DBA REPUBLIC

BEFORE THE U.S. HOUSE FINANCIAL SERVICES COMMITTEE'S SUBCOMMITTEE ON DIGITAL ASSETS, FINANCIAL TECHNOLOGY, AND INCLUSION AND THE HOUSE AGRICULTURE COMMITTEE'S SUBCOMMITTEE ON COMMODITY MARKETS, DIGITAL ASSETS, AND RURAL DEVELOPMENT

"The Future of Digital Assets: Measuring the Regulatory Gaps in the Digital Asset Market Structure"

Wednesday, May 10,
2023 9:30AM EST

Thank you, Committee Chairmen McHenry and Thompson, Ranking Members Waters, Lynch, Scott; Subcommittee Chairmen Hill and Johnson, Ranking Member Caraveo, and esteemed members of the Subcommittee for the honor of testifying before you today. My name is Andrew Durgee, and I am an Executive Vice President of OpenDeal Inc., doing business as Republic and a co-founder of its Web3 and blockchain technology cryptocurrency business lines known under the umbrella brand of "Republic Crypto". In these capacities I oversee Republic's strategic vision with respect to Web3 technology, as well as sit on various corporate boards as a fiduciary.

Before delving into the substance of regulatory policy with respect to digital assets and for the cryptocurrencies, permit me to tell you more about my background and Republic.

I was born to teenage parents in South Florida. I was fortunate enough to get a scholarship to Saint Andrew's High School in Boca Raton, Florida. Then I received a scholarship to Worcester Polytechnic Institute in Worcester, Massachusetts where I studied management engineering. I have been in the blockchain industry for over a decade. I was a CEO and Co-Founder of The Coin Tree, one of the first companies working on multi signature security solutions for bitcoin. I later became a partner at TLDR Capital, where we were one of the premier global web3 advisory platforms. I joined Republic in early 2019 to build out Republic Crypto as the first vertically integrated crypto investment bank.

Republic is a global technology firm pioneering the digital transformation of finance. Republic operates prominent private, regulated, investing platforms, making it possible for 2.5+ million community members across 150+ countries to access private market investment opportunities. Combined with our private capital and web3 divisions, Republic unites ambitious builders and investors, empowering them to shape the future.

Today's hearing builds off prior sessions, including last month's April 27th hearings, when your Committees heard from business leaders, attorneys and policy advisors. Those earlier hearings were focused on "Measuring the Regulatory Gaps." But there is another gap relevant to digital assets and cryptocurrencies that I would like to briefly mention: wealth inequality.

Wealth inequality is a global crisis which is particularly acute in the United States; never before has there been such a gap, which can be seen in the current economic realities, steady inflation, moderate job-growth but stagnating wages. Republic's underlying business goal is to close the gap in ways that are productive, rather than charitable. Through the start of 2023, Republic's community of users, co-investors, and partners has deployed more than $2.5 billion into 2,000+ private ventures and projects.

When Republic was founded in 2016, it became one of the first companies to harness the potential of the JOBS Act for investors of all kinds, enabling startup founders to raise capital directly from their communities—and for investors across the world to discover and invest in companies and visions they believed in. In seven years, Republic's Retail business line,

"Republic Retail", has helped over 350 businesses raise capital, more than 40 of which have raised over $1 million, and 14 of which have raised the maximum of $5 million under recently expanded SEC crowdfunding rules. Republic recently acquired the leading crowdfunding platform and private secondary market in Europe, Seedrs, which is based out of the United Kingdom, to take this mission global.

Where Republic Retail has met the needs of a fast-growing audience of retail investors, the "Republic Capital" business line has supported family offices, high net worth individuals, and other institutional investors with primarily growth-stage investment opportunities. Since its inception in 2017, Republic Capital has facilitated over $610 million in investments through the end of 2022. It has deployed capital into more than 120 syndicates, and launched multiple closed-ended funds—often co-investing alongside top-tier venture firms like a16z, Founders Fund, and Tribe Capital. With a broad investment strategy across technology, space, and blockchain, some of the most notable investments Republic Capital manages include SpaceX, Avalanche, and Carta.

Independently, these pillars have grown immensely. In 2017, its first full year of operation, Republic Retail facilitated a total investment volume of approximately $4 million. Since then, this figure has about doubled each year—reaching $7.8 million in 2018, $19.5 million in 2019, and $38.5 million in 2020, the same year the first Republic Note offering open to the public was conducted. In the following two years, the gross transaction volume totaled over $160 million. Similarly, Republic Capital has grown to manage close to $1 billion in assets, which include investments in blue-chip space tech brands like Axiom and Firefly.

Republic Crypto, which I lead, offers a range of services that combine to accelerate the growth of web3. It started as an advisory firm, now offers full-fledged blockchain infrastructure solutions, as well as operates an institutional digital asset management division.Our advisory arm is composed of world-class strategists who design digital asset economies, engineer smart contracts, and support public digital asset offerings. We also build and operate blockchain infrastructure, participating in the security of many of the ecosystem's top protocols. Additionally, Republic Crypto's digital asset management division helps guide institutional investors through this fast-evolving industry.

Given its founder's prior career as an attorney, regulatory compliance has long been woven into Republic's corporate DNA. As the business has become more complex in structure, understandably, a supportive (but complex) legal structure has developed in parallel. Underlying Republic are several semi-autonomous subsidiaries, some with licenses to conduct offerings and sales of securities to both non-accredited and accredited persons in the United States. They include a funding portal, an investment adviser, and a broker-dealer—all of which are subject to oversight by the US Securities and Exchange Commission (SEC) and the Financial Industry Regulatory Authority (FINRA). Republic's European operations are regulated by the UK Financial Conduct Authority and other subsidiaries are registered with other regulatory agencies.

Across our family of companies, every team member at Republic plays an instrumental role in implementing and growing our digital asset ecosystem. Ours is a group with deep and diverse experience across investments, blockchain, law, engineering, and community building. The Republic team of over 300 full-time team members honed their expertise at reputable tech startups, respected law firms, and leading financial institutions. We are devoted to keeping jobs in the United States and continue positioning our country as the leader of the rapidly evolving digital assets ecosystem. Although recent reports suggesting a ~20% year-over-year drop in US-based protocol developers concern us, Republic remains committed to working with legislators and regulators to propose sensible legislation to prevent a mass offshore exodus and position our country for long term worldwide leadership in crypto.

Republic is perhaps best known as a primary offerings platform, holding coveted regulatory licenses and supporting personnel and infrastructure that enables other companies, mostly early stage companies - startups - to raise capital from the crowd (e.g retail investors) as well as accredited and institutional investors. In short, Republic has two types of end-users, as a founder or executive, you come to Republic to raise money, and as an investor, you come to Republic to find compelling investment opportunities.

Raising money from the crowd under the JOBS Act Regulation Crowd Funding (Reg CF) or Reg A+ is a powerful means of access for those typically left out of some of the greatest forms of wealth creation in the history of the world, venture capital. Before Reg CF, it was almost impossible for a non-accredited investor to invest in private companies, only widening the gap in wealth inequality. Reg CF changes that. In the venture and startup world, the founders and their teams seek to solve a problem or gap in the market. Like these entrepreneurs, you too, members sitting members here today, have the potential to be innovators and visionaries solving a much bigger problem than any one startup does. It is regulatory innovations such as Reg CF that can propel economic well-being and opportunity for all.

Turning to the substance of the hearing, I would like to reiterate that I share the views of those testifying here today and in past hearings who have identified that not all digital assets should be treated as securities throughout their lifecycle, that there is a need for other agencies to regulate digital assets when they are not considered securities. in addition to the SEC, that there is a need for trusted intermediaries, and that innovation should not be regulated out of the United States.

Honorable Members of Congress,

Allow me to provide you with an overview of the three main paths for registering or qualifying a digital asset offering for a registration exemption that includes non-accredited investors under the Securities Act of 1933 (the "1933 Act"). These include qualification, which is not the same level of SEC vetting as a registration, but it does involve significant

vetting. The qualification path includes registration under Regulation A+ pursuant to Form 1-A. Under this path, a company can raise no more than $75,000,000 in any 12-month period. An offering under a typical IPO by a domestic issuer on Form S-1, and an IPO by a foreign issuer on Form F-1. These registrations do not have fundraising caps but they have material costs to complete and costs associated with continued reporting thereafter.

Reg CF is an exemption from registration and is neither a qualification nor a registration. The SEC does not review offerings pursuant to Reg CF deals, but a public informational filing is made and the registered intermediary, such as a registered crowdfunding portal like Republic. The registered intermediary provides a level of due diligence on the company making the offering and facilitates the offer and sale to ensure investors invest within their investment limits and understand the risks and rewards of private investing. What makes Reg CF so important is the ability for retail investors to participate and for issuers to be able to access the crowd with minimal external or recurring costs, provided there is a trusted intermediary facilitating the deal. To expand access in a regulated market,, expand the crowdfunding cap from $5 million to $10 million. Doing so does not increase risk to investors, in fact it may reduce risk by allowing projects to receive larger amounts of funding to pursue their goals, and it makes Reg CF meaningfully more attractive for prospective users of the registration exemption.

For more sophisticated projects or those in need of greater amounts of funds, Reg A+ may be a viable option; Reg A+ currently allows an issuer to raise up to $75M per annum. To qualify an offering like a Reg A or register an offering, the issuer is required to fill out the appropriate form and submit it to the SEC with other necessary documents, including at least two years of financial statements. The SEC will then review the submission and provide comments that must be addressed through written answers and subsequent amendments to the filed forms. Only after the SEC's comments are fully addressed, and the form is deemed "effective" or "qualified," can the issuer begin selling the securities. For a brief period the SEC was actively doing this with respect to digital assets, however, the current Administration has not qualified a single digital asset offering.

Seeking to provide clarity on the initial issuance and ongoing regulatory status of digital assets, a group of attorneys active in the cryptocurrency and digital asset space drafted an exemption, inspired by Hester Pierce's Safe Harbor. The exemption for offerings and the framework for secondary market disclosure may provide a way to extend the public policy framework of securities laws to digital asset issuances. This could enable the facilitation of capital formation and peer-to-peer transactions while minimizing opportunities for issuers to exploit differences in laws around exempt securities offerings. The focus on issuer disclosures would be retained, but adjusted as necessary to account for the unique risks posed by these decentralized models. The proposed framework would also clarify which digital asset issuances fall beyond the scope of securities laws, subject to specific conditions. Secondary market disclosure requirements would be put in place, with a focus

on insiders, points of control and centralization, and large holders in the market. Additionally, the traditional securities law focus on ongoing issuer reporting obligations, protections for retail investors, and enforcement against bad actors would be maintained. Finally, efforts would be made to harmonize how these assets and the proposed disclosure regime interact with existing securities laws and disclosures, including when a digital asset offering could trigger the registration of an Issuer's equity under Section 12(g) of the Exchange Act.

The exemption could cap the amount that accredited investors can invest. This is smart design to ensure that projects are decentralized. Because digital assets often carry voting features, the more concentrated the digital asset ownership is, the more centralized control over the system is. Furthermore, an exemption could reward decentralization by creating thresholds to meet in order to be exempt from 12(g) registration requirements.

I believe ideas like these should be looked at in crafting legislation and rulemaking to foster the growth of this ecosystem in a responsible manner.

It is worth noting that even if the digital asset distribution is exempt from the registration requirements of the 1933 Act, if the digital assets are deemed "equity" securities and the project meets certain minimum asset and holder requirements, they may still be required to register under the Securities Exchange Act of 1934 (the "1934 Act").

Digital assets registered as securities cannot be traded on existing crypto exchanges, none of which are registered as national securities exchanges, leaving a limited number of ATS platforms and OTC brokers as the primary means of trading. Furthermore, current regulations do not align with the inherently decentralized and disintermediated trading technology of blockchains, further complicating matters. Congress should instruct the SEC to adopt rules and procedures which allow intermediaries to act as brokers or exchanges with respect to digital assets which are securities and exempt parties dealing in non-securities from complying with such rules. In such cases, Congress should consider whether these forums should be regulated by the CFTC. Such potential jurisdictional overlaps call out for Congress to weigh in on, and the SEC must not overstep its bounds and create potentially conflicting regulatory regimes without Congressional direction.

In the traditional centralized model of business (TradFi), corporate enterprises operate in a hierarchical manner with directors and management acting as fiduciaries for shareholders. In this model, the existing regulatory regime effectively addresses the significant risks that come with raising capital.

However, in the decentralized operating models of the digital era, there is no corporate structure, directors, or shareholders. Users operate independently in response to incentive structures within software code, acting in concert in a decentralized fashion based on their

independent judgments and, in some cases, protocol voting rights. This high level of user involvement, self-custody and peer-to-peer transferability of digital assets, and the absence of formal legal entities and fiduciary relationships create entirely different risks. Unfortunately, existing securities law frameworks do not adequately address these risks.

Decentralized exchanges (DEXs) facilitate peer-to-peer transactions of digital assets. A user can exchange their digital asset, such as trading Bitcoin for Ether, without depositing assets with a central authority. DEXs use "smart contracts" to manage asset exchanges, building trust in transactions. Smart contracts autonomously enforce agreements, executing and recording transactions on the blockchain.

Smart contracts also help DEXs maintain liquidity for decentralized transactions. While centralized systems rely on broker-dealers for liquidity, DEXs use Automated Market Makers (AMMs), code-based protocols operating without intermediaries. AMMs incentivize pooling assets in a DEX's smart contracts by rewarding liquidity providers with digital assets representing transaction fees.

Once established, DEXs operate autonomously according to smart contracts and decentralized participation, without requiring a central organization. Decentralized exchange protocols allow trustless, disintermediated digital asset exchanges, forming a crucial foundation for the web3 ecosystem without any central points of failure.

However, due to a lack of legal and regulatory clarity, US-based developers of these promising decentralized autonomous organizations (DAOs) are often either operating them under foreign off-shore foundations or in an entity-less fashion. DAOs are key to the success of Web3 protocols as they provide benefits that help make them competitive against the centralized and vulnerable systems of Web2. Although multiple proposals to fix this have made their way in state legislatures, an overarching solution to keep them onshore is warranted.

Regarding secondary markets, we must also highlight a January 2022 SEC amendment proposal concerning national securities exchanges and alternative trading systems (ATS), accompanied by a strong dissent from Commissioner Hester Peirce. The primary aim of the proposal is to significantly broaden the scope of what constitutes a "securities exchange" and who is required to register as a "securities exchange" or "alternative trading system for securities." In doing so, the proposal would override previous SEC no-action letters and guidance that provided assurance that certain types of systems are not considered exchanges. SEC Chair Gensler's explanation is even more expansive, stating that the changes are intended "to cover platforms for all kinds of asset classes that bring together buyers and sellers." The proposed amendment has been reopened for comment last month. The Proposal mints a new term—"Communication Protocol Systems"—to describe the entities that offer communication protocols and the use of non-firm trading

interest to bring together buyers and sellers of securities. The Commission believes that the term "makes available" is more appropriate to describe these systems because they take a more passive role in providing participants with the means and protocols to interact, negotiate, and come to an agreement.

While the proposal does not mention blockchain, decentralized finance (DeFi), automatic market-making protocols (AMMs), etc., most believe the SEC staff intends for the expanded definition of "exchange" to capture AMMs and Defi, as securities exchanges. Yet the proposal offers no method of registration and reporting that could actually be followed by anyone who arguably "makes available" an AMM protocol or other DeFi system.

The technological operation of decentralized financial systems are not compatible with existing rules and compliance obligations for registered exchanges and ATSs. For instance, a prerequisite for a registered Alternative Trading System (ATS) involves identifying, monitoring, and reporting the orders of its users, referred to as "subscribers," to the SEC. However, it can be argued that entities that facilitate access to Automated Market Makers (AMMs) – whether they are considered miners, software providers, or front-end operators – lack access to such information. Moreover, these facilitators of AMMs, due to their lack of control over the AMMs, possess no means of guaranteeing that securities or digital assets essential to a securities scheme are not traded through the AMMs. Instead, this decision rests solely with the users of the AMMs.

As crypto attorney and legal commentator, Gabriel Shapiro notes, under the SEC's proposed framework, however, the persons arguably "making available" AMMs could be more persuasively argued by the SEC to have exchange/ATS registration/reporting obligations because:

(a) participation as a liquidity provider in a particular AMM pool can potentially be argued to be a communication of trading interest regarding the digital assets (possibly securities) in that pool; and

(b) the AMM smart contract, or a website providing information about the protocol implemented within such AMM smart contract, can potentially be argued to be a COMMUNICATION PROTOCOL which brings together buyers and sellers through such communications of trading interest.

While there are no easy solutions to regulation technology that is fundamentally different from existing systems and adapting such new technology to existing rules and regulations, the starting point is to identify the component parts:

- The autonomous smart contract

- The deployers of the smart contract (software developers)
- The liquidity providers and AMMs
- The front end websites operator

These parties/components are not all the same. They are disintermediated and often decentralized. To the extent they are centralized, they are more likely to resemble an exchange or ATS, minus the different technology. However, in other instances, it is possible for all of the component parts to be unaffiliated. In those cases, it is clear that if a software developer deployed a smart contract and no longer is involved in its maintenance, they should not be swept into a regulatory compliance regime for an exchange or ATS. Perhaps, in the initial period, they might be able to provide certain transparency disclosures and there could be mandates for a certain standard of code auditing to mitigate the risk of the software code being exploited or hacked.

The smart contract itself, once deployed on the internet, is virtually impossible to stop. The "keys" to modify the contract are either "burned" upon deployment or transferred to governance digital asset holders. Liquidity providers would be able to access those smart contracts. Various industry participants have suggested KYC solutions, at the front-end level or even at the wallet level. These are hotly debated. Such solutions could provide a middle ground, but would not prevent the proliferation of wallets and front ends that do not require KYC to be used or to access a smart contract-based decentralized financial system.

We have seen a number of failures in the traditional financial system. Highly regulated commercial and investment banks failing in orders of magnitude that dwarf the exploits in crypto. Humans fail, and to be fair code developed by humans fail. However, the aim of crypto technology is not intended as the get-rich-quick schemes highlighted in the news. It is intended as an innovation and next iteration of the financial system. One that minimizes the need for trust in a middleman or middlewoman. You and I can send funds to each other and conduct complex financial trades like derivatives through software code that runs on its own. Margin can be automated, as can liquidations.

So proposed measures to regulate defi should include: code audits, transparency reports from the initial developers which would be sunet if they truly decentralize away from managing the technology, thresholds of digital asset ownership for those affiliated with the DeFi system, insurance funds, and perhaps a level of KYC if there is a centralized team that facilitates access to a decentralized system that enables securities trades. There would need to be a framework in which a DeFi system is so decentralized that regulatory obligations sunset off of a party and perhaps onto successor parties if needed..

The SEC must reassess and revise the proposal to explicitly clarify that its intent does not encompass prohibiting the development and implementation of code exclusively designed

for peer-to-peer digital asset trading or websites—including mere block explorers—that solely offer information about interactions that have transpired or could potentially transpire through such code, along with instructions on how to engage with the code. It is implausible for mere coders or website operators to register with FINRA, monitor the identities and transactions of AMM systems operating on decentralized autonomous blockchain systems, or otherwise adhere to the ATS or exchange reporting and registration framework. Consequently, if the new rule were applied to these individuals, it would effectively ban a vast range of technologies and free speech pertaining to those technologies, exceeding the SEC's jurisdiction and resulting in an unconstitutional infringement of our civil and human rights.

It is an undeniable fact that the lack of registered digital asset offerings in the United States is a result of the SEC's failure to provide actionable guidance, issue necessary rules, or engage constructively with the crypto industry to establish a feasible regulatory framework for security digital assets.

Let me provide you with a concrete example to illustrate this point. Even a public company with a class of shares registered with the SEC as prominent as Coinbase has struggled to navigate the regulatory landscape. In the summer of 2022, Coinbase submitted a rulemaking petition to the SEC seeking clarity on unresolved issues necessary for a functioning digital asset market, such as registration as an exchange and staking. Regrettably, the petition went unanswered.

Moreover, in a disconcerting pattern of regulation by enforcement, the SEC recently sent Coinbase a Wells notice concerning activities that the company was actively seeking clarity on through their public rulemaking. This behavior is both unreasonable and counterproductive. It also sends a disheartening message to the ecosystem as a whole: if compliance-minded firms with ample resources like Coinbase supposedly "don't comply" and can't get necessary answers on regulatory clarity, who can? This further drives companies and jobs offshore.

I must emphasize that the assertion that digital asset projects can easily register their digital assets with the SEC today is simply not accurate. In reality, much more is required if the SEC genuinely desires to provide adequate investor protection in the crypto asset arena. Expand on the need for trusted intermediaries for offerings and secondary trading; i.e. mandate the SEC expand what registered brokers and exchanges may do with digital assets, rather than stalling and making those who wish to participate productively look to do business offshore.

Internationally, the United States is falling behind, while Canada has similar treatment of digital assets to the United States, our European counterparts last month approved a

comprehensive and sweeping regulatory framework for crypto assets known as the Markets in Crypto Assets (MiCA). The primary objectives are to promote innovation, protect investors, ensure financial stability, and maintain market integrity. MiCA will come into effect in 2024 or 2025. The main points of the MiCA regulation are as follows:

Classification of Crypto Assets: MiCA defines and classifies crypto assets into three categories - utility digital assets, asset-referenced digital assets, and electronic money digital assets (e-money digital assets). This classification helps establish clear regulatory requirements and responsibilities for different types of crypto assets.

This is the main point that the US must learn. The US and Canadian regulators generally do not recognize utility digital assets as a distinct category of assets that are not securities. Instead, the regulators use the Howey Test and its Canadian counterpart the Pacific Coin test to analyze whether a digital asset is a security, based on facts and circumstances and economic realities. In virtually all cases, the regulators seek to prove that the assets are securities, and in extremely limited cases such as no-action letters for certain stablecoins, has the SEC confirmed that a digital asset is not a security. But that stance on stablecoins seems to be eroding as well. Even in the UK, utility digital assets, digital assets that do not resemble equity or debt instruments, are not regulated as securities.

Issuance and Offering of Crypto Assets: MiCA establishes requirements for issuers of crypto assets, including the need to be a legal entity, draft a whitepaper, and comply with disclosure and transparency requirements. It also outlines provisions for the marketing and offering of crypto assets, especially for asset-referenced and e-money digital assets, to protect investors.

Licensing and Supervision of Crypto-Asset Service Providers (CASPs): MiCA introduces a licensing regime for CASPs, requiring them to obtain authorization from their home Member State's competent authority. The regulation also outlines prudential, governance, and operational requirements for CASPs and establishes a framework for cross-border provision of services.

Market Abuse and Prevention Measures: MiCA includes provisions to prevent market abuse, such as insider trading, market manipulation, and the unlawful disclosure of inside information. It also requires CASPs to implement measures to detect and report suspicious transactions.

Consumer Protection and Anti-Money Laundering (AML) Measures: MiCA emphasizes consumer protection, requiring CASPs to implement adequate policies and procedures to manage conflicts of interest, safeguard client assets, and provide transparent information. Additionally, the regulation strengthens AML and Combating the Financing of Terrorism (CFT) measures by extending existing EU AML/CFT rules to all CASPs.

EU Passport: MiCA introduces an EU-wide passport for crypto-asset issuers and service providers, enabling them to operate across the entire EU with a single authorization, harmonizing the regulatory landscape and promoting cross-border activities.

Additionally, I have met with government officials in Dubai and Abu Dhabi to learn more about their efforts to foster responsible digital assets innovation. At a high level, they are more likely to follow the EU model than the US model. Europe and the Middle East are more harmonized with each other than with the US.

If the United States does not adopt a smarter, more technology-accommodating approach to regulating the digital assets industry, it risks falling behind other regions that have established more technology-friendly environments. The lack of clear and supportive regulation in the United States may deter businesses and investors from engaging in the domestic digital asset market, which could have several adverse consequences. First, it may lead to reduced economic growth as the potential for job creation, tax revenue, and capital investment in the digital asset industry remains untapped. Second, the United States may experience a decline in technological advancements, as innovators and entrepreneurs could relocate to jurisdictions with more competitive regulations, thereby hindering the development of blockchain and digital asset technologies domestically. Finally, the global competitiveness of the United States in the digital assets industry may diminish, as other countries continue to embrace and support the growth of this sector, attracting talent and investment. In order to maintain its position as a global leader in technology and finance, the United States must reconsider its approach to digital asset regulation and create an environment that fosters innovation while protecting consumers and maintaining market integrity.

Thank you for the opportunity to testify before you today. We look forward to continued dialogue and collaboration.

Testimony of Matthew B. Kulkin

Partner and Chair, Futures and Derivatives Practice
Wilmer Cutler Pickering Hale and Dorr LLP

Before the House Agriculture Committee and
House Financial Services Committee

Subcommittee on Commodity Markets, Digital Assets, and Rural Development
Subcommittee on Digital Assets, Financial Technology, and Inclusion

The Future of Digital Assets:
Measuring the Regulatory Gaps in the Digital Asset Markets

May 10, 2023

Dear Subcommittee Chairs Johnson and Hill, Ranking Members Lynch and Caraveo,

My name is Matthew Kulkin. I am a partner in the Washington, DC office of Wilmer Cutler Pickering Hale and Dorr LLP, where I am Chair of the Futures and Derivatives Practice. Previously, I had the honor of serving as the Director of the Division of Swap Dealer and Intermediary Oversight (now Market Participants Division) at the U.S. Commodity Futures Trading Commission ("CFTC").

The views I share are my own and do not represent those of my colleagues, my law firm, our clients, or any other person or organization.

Thank you for inviting me to support your work to bring much needed regulatory clarity and certainty to these markets in the United States. I commend the House Agriculture and Financial Services Committees working together to explore potential paths forward towards digital asset market regulation. Digital asset market regulation and policy cannot be successfully developed by any individual committee, legislative chamber, or regulatory agency.

Today, I wish to address three important points:

- First, the definition of a "commodity" under the Commodity Exchange Act ("CEA") is broad and includes a wide range of items. To date, the CFTC and the Securities and Exchange Commission ("SEC"), as well as Federal courts, have treated many of the largest, most frequently traded digital assets as commodities.

- Second, the CFTC has been effective at exercising its regulatory authority over digital commodity derivatives markets and, despite limited enforcement authority, digital commodity spot market activity for fraud and manipulation. The CFTC has developed institutional expertise with digital commodities. The CFTC's regulatory framework makes it well suited to regulate digital commodities spot trading and further protect market participants.

- Third, following Congressional direction, the CFTC and the SEC have a long and constructive history of coordination and collaboration with respect to the regulation of new products and new markets that can be leveraged for digital asset regulation.

I. Digital asset policymaking requires a sophisticated understanding of digital assets and digital asset markets.

Before I begin, I believe it is important to recognize that digital asset regulatory policy is complicated and cannot be developed in a vacuum.

Digital asset regulatory policy is nuanced. Laws and regulations cannot be made solely on the basis of any perceived jurisdictional expansion or contraction; nor can it be

developed by picking "winners" or "losers" - whether that means individuals, agencies, or private companies.

Any absolute recommendation to "ban" digital assets or "give" jurisdiction to one agency or self-regulatory organization fails to appreciate the legislative precedent and market structure implications that require a more sophisticated, holistic approach to successful policy development for these issues.

Only Congress can provide Federal regulatory agencies with the statutory clarity necessary to protect investors, on the one hand, and attract and retain the innovation that has made U.S. capital markets the deepest, most transparent, and competitive in the world.

II. Most of the largest digital assets by market size and trading volume are commodities.

Congress defined a commodity in the Commodity Exchange Act as:

> wheat, cotton, rice, corn, oats, barley, rye, flaxseed, grain sorghums, mill feeds, butter, eggs, Solanum tuberosum (Irish potatoes), wool, wool tops, fats and oils (including lard, tallow, cottonseed oil, peanut oil, soybean oil, and all other fats and oils), cottonseed meal, cottonseed, peanuts, soybeans, soybean meal, livestock, livestock products, and frozen concentrated orange juice, and all other goods and articles, except onions (as provided by section 13–1 of this title) and motion picture box office receipts (or any index, measure, value, or data related to such receipts), and all services, rights, and interests (except motion picture box office receipts, or any index, measure, value or data related to such receipts) in which contracts for future delivery are presently or in the future dealt in.[1]

The CFTC has implemented this definition into its regulations in a substantially similar manner.[2] As a result, the CFTC, and courts, have taken an expansive view of what may be considered a commodity.[3] Even Congress has deemed the definition of a commodity to be a "term of art."[4]

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[1] 7 U.S.C. § 1a(9).

[2] 17 C.F.R. § 1.3.

[3] *See* Matthew Kulkin, Meredith Manuel, and Emma Staats, *Of Onions and Movie Tickets: The Evolving Definition of a 'Commodity', Futures and Derivatives*, 42 Futures & Derivatives L. Rep. NL 1 (Sept. 2022).

[4] *See* John H. Stassen, *The Commodity Exchange Act In Perspective A Short And Not-So-Reverent History Of Futures Trading Legislation In The United States*, 39 Wash. & Lee L. Rev. 825, 832 (1982), https://scholarlycommons.law.wlu.edu/wlulr/vol39/iss3/3.

As courts have noted, Congress seemed to intend to "focus on categories—not specific items" noting that, for example, the CEA "classifies 'livestock' as a commodity without enumerating which particular species are the subject of futures trading."[5]

As other experts have noted in recent hearings before these subcommittees, while some digital assets are undoubtedly securities, many digital assets are used and traded like commodities.[6] In particular, the CEA definition includes the clause "all other goods and articles . . . and all services, rights, and interest. . . in which contracts for future delivery are presently or in the future dealt in," which suggests that this definition is intended to be applied broadly.[7]

In addition, when considering actions taken by the CFTC and SEC, each as a Commission,[8] certain digital assets have been recognized as commodities. As discussed in a recent hearing, digital assets that have been recognized as commodities by the CFTC and SEC include the largest digital assets by market capitalization: Bitcoin, Ether, and Tether, which account for 71% of the digital asset market.[9] This means that the CFTC currently does not have regulatory authority over the activity in at least 71% of digital asset spot activity, except for fraud and manipulation. In other words, at least 71% of the digital asset spot market includes digital commodity activity that is unregulated at the federal level. It is not subject to the CFTC's rules that would require, among other things, segregation of customer funds, registration and regulation by the CFTC, customer disclosures, and regular examination.

Given these factors, there appears to be a natural delineation between digital assets that are securities and digital assets that are commodities, both in terms of the characteristics of these products and the regulatory jurisdiction over these assets. As discussed below, the CFTC and SEC have successfully allocated jurisdictional oversight over other products and markets before. Given these factors, Congress should consider a similar approach for digital assets, recognizing the inherent differences between digital assets that are securities and digital assets that are commodities.

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[5] *See Commodity Futures Trading Commission v. My Big Coin Pay, Inc.*, 334 F. Supp. 3d 492, Comm. Fut. L. Rep. (CCH) P 34,345 (D. Mass. 2018), *leave to appeal denied*, 2020 WL 6363885 (D. Mass. 2020).

[6] Testimony of Purvi R. Maniar, Deputy General Counsel, FalconX, Before the H. Comm. on Agriculture (Apr. 27, 2023), https://docs.house.gov/meetings/AG/AG22/20230427/115803/HHRG-118-AG22-Wstate-ManiarP-20230427.pdf.

[7] *See* Letter from Senator Elizabeth Warren to the Honorable Rostin Behnam, Acting Chairman, CFTC (June 28, 2021), https://www.warren.senate.gov/download/letter-to-cftc-re-google-project-bernanke-warren (suggesting that online advertising rates may be a commodity subject to the CEA).

[8] As a Commission, such as an enforcement case, entity registration, or product certification. As opposed to staff action, staff statements, or an individual Commissioner's speeches or public statements.

[9] Testimony of Mr. Daniel Davis, Partner, Co-Chair, Financial Markets and Regulation, Katten Muchin Rosenman LLP, Before the H. Comm. on Agriculture (Apr. 27, 2023), https://docs.house.gov/meetings/AG/AG22/20230427/115803/HHRG-118-AG22-Wstate-DavisD-20230427.pdf.

To be clear, when discussing digital commodity spot market oversight, I am only referring to digital commodities, and not agricultural commodities, energy commodities, or other non-digital commodities. Those products and markets have existed for much longer periods of time and have developed robust regulatory frameworks to address the unique characteristics of those markets.

III. The CFTC's existing regulatory framework for digital commodities: regulatory authority vs. enforcement authority.

The CFTC is a markets regulator. Its mission is to promote the integrity, resilience, and vibrancy of the U.S. derivatives markets through sound regulation.[10] Importantly, the CFTC has two forms of authority - regulatory authority and enforcement authority.[11]

Under the CEA, the CFTC regulates futures contracts, options on futures contracts and swaps transactions.[12] The CFTC also has jurisdiction over certain retail foreign exchange and retail commodity transactions.[13] This authority is commonly referred to as "regulatory" authority and includes, among other things, requirements that entities register with the CFTC in certain capacities, comply with associated regulations, retain records, respond to inquiries, as well as examinations by CFTC auditors.

The CFTC also has authority to pursue charges for fraud or manipulation in the "spot," or underlying market.[14] This authority, which was added to the CEA in the Dodd-Frank Act, applies equally to all commodities, whether soybeans, oil, interest rates, or Bitcoin. This authority is commonly referred to as "enforcement" authority and is limited in scope to commodity market activity that impacts the related derivative market. In 2015, the CFTC determined that Bitcoin and other digital assets are within the definition of "commodity" under Section 1a(9) of the CEA.[15] The CFTC has since declared in enforcement cases that Ethereum, Litecoin, and several stablecoins like USDC are commodities in interstate commerce, as defined under the CEA.[16]

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[10] *See* CFTC Mission Statement, https://www.cftc.gov/About/AboutTheCommission.

[11] *See* Statement of Commissioner Dawn D. Stump on the CFTC's Regulatory Authority Applicable to Digital Assets (Aug. 23, 2012), https://www.cftc.gov/PressRoom/SpeechesTestimony/stumpstatement082321.

[12] 7 U.S.C. § 2.

[13] *Id.* § 2(c)(2)(C) & (D).

[14] *Id.* § 6(c); 17 C.F.R. § 180.1.

[15] *See In re Coinflip, Inc.*, CFTC No. 15-29, 2015 WL 5535736, at *2 (Sept. 17, 2015), https://www.cftc.gov/sites/default/files/idc/groups/public/@lrenforcementactions/documents/legalpleading/enfcoinfliprorder09172015.pdf.

[16] *See, e.g.,* Compl., *CFTC v. Eisenberg*, No. 1:23-cv-00173 (S.D.N.Y. Jan 9, 2023).

Relying on this position, and other authorities, the CFTC has brought a significant number of enforcement actions regarding alleged misconduct in digital commodity markets.[17] In Fiscal Year 2022 (ending September 30, 2022), the CFTC brought 18 actions involving conduct related to digital commodities, representing more than 20% of all actions filed during the year.[18]

As CFTC Chair Behnam recently explained to Congress, "[t]he CFTC does not have direct statutory authority to comprehensively regulate cash digital commodity markets. [The CFTC's] jurisdiction is limited to its fraud and manipulation enforcement authority. In the absence of direct regulatory and surveillance authority for digital commodities in an underlying cash market, [the CFTC's] enforcement authority is, by definition, reactionary; [the CFTC] can only act after fraud or manipulation has occurred or been uncovered."[19]

This is an important point. As Chair Benham recently observed, "Congress did provide the CFTC with authority to police cash markets when there is fraud or manipulation . . . and it's a very powerful tool."[20] He noted that, unlike regulatory authority, where the CFTC has oversight of a registered exchange, intermediary, or clearinghouse, enforcement authority doesn't provide the CFTC with the statutory authority to conduct "institutional reviews of participants, . . . data reporting, . . . or real-time surveillance of markets," in the spot market, noting that these tools "are the key components . . . to an effective impactful regulatory system."[21]

IV. The CFTC is well positioned to regulate digital commodity spot market trading and further protect customers.

The CFTC has shown it can successfully implement the Commodity Exchange Act in a way that provides regulatory flexibility to market participants of all sizes and sophistication, while remaining vigilant in its mission to protect customers and promote the integrity, resilience, and vibrancy of the U.S. derivatives markets. With these fundamental elements in place, the CFTC has proven to be an innovative agency

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[17] WilmerHale, *CFTC 2022 Enforcement and Regulatory Developments and a Look Forward* (Feb. 2, 2023), https://www.wilmerhale.com/en/insights/client-alerts/20230202-cftc-2022-enforcement-and-regulatory-developments-and-a-look-forward.

[18] CFTC Press Release, *CFTC Releases Annual Enforcement Results*, Release No. 8613-22 (Oct. 20, 2022), https://www.cftc.gov/PressRoom/PressReleases/8613-22 ("This FY 2022 enforcement report shows the CFTC continues to aggressively police new digital commodity asset markets with all of its available tools.").

[19] CFTC, Testimony by Chairman Rostin Behnam Before the Subcommittee on Agriculture, Rural Development, Food and Drug Administration and Related Agencies Committee on Appropriations, U.S. House of Representatives (Mar. 28, 2023), https://www.cftc.gov/PressRoom/SpeechesTestimony/opabehnam35.

[20] Milken Institute, *Moving Digital Assets Forward Part 1: A Conversation with CFTC Chairman Rostin Behnam* (May 1, 2023), https://milkeninstitute.org/panel/14605/part-1-conversation-cftc-chairman-rostin-behnam.

[21] *Id.*

across a number of markets and products, including agricultural commodity and energy derivatives, financial derivatives, and digital commodity derivatives. As these subcommittees have heard before, the CFTC staff has spent considerable time studying digital asset markets, identifying risks, and advancing sound policy through its LabCFTC and Office Technology Innovation.[22]

The CFTC's core market oversight functions are broken down by operating divisions. The Division of Market Oversight monitors futures exchanges, swaps trading platforms, foreign exchanges, and trade repositories.[23] The Division of Clearing and Risk focuses on derivatives clearing organizations, or clearinghouses, that facilitate settlement of trades.[24] And the Market Participants Division, my former division, regulates the counterparties to trades - liquidity providers, investment funds, and intermediaries.[25] The Division of Enforcement works closely with each of the operating divisions to ensure compliance with the CFTC's rules.[26]

The CFTC has an existing regulatory framework in place for the registration, regulation, and examination of trading platforms, clearinghouses, intermediaries, liquidity providers, and investment funds that is well suited for oversight of digital commodities spot market activity. In fact, today, the CFTC has already registered and is actively regulating digital commodity derivatives market participants as designated contract markets ("DCMs"), swap execution facilities ("SEFs"), derivatives clearing organizations ("DCOs"), swap dealers ("SDs"), futures commission merchants ("FCMs"), introducing brokers ("IBs"), commodity pool operators ("CPOs"), and commodity trading advisors ("CTAs").

Each of these registrant categories must satisfy a number of requirements to register, and do business, in a manner that meets the CFTC's customer protection rules and ensures the operation of markets with integrity. For example, among other things, FCMs (intermediaries) must separately account for all customer funds at all times and segregate those funds as belonging to customers. Those funds must be deposited under an account name that clearly identifies them as customer funds.[27] DCMs, or exchanges, must demonstrate that its contracts are not readily susceptible to manipulation,[28] establish and maintain appropriate minimum financial standards for its

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[22] *See* Written Statement of Daniel S. Gorfine, CEO, Gattaca Horizons, LLC, Before the H. Comm. on Financial Services (Apr. 27, 2023), https://docs.house.gov/meetings/BA/BA21/20230427/115821/HHRG-118-BA21-Wstate-GorfineD-20230427.pdf.

[23] CFTC, *Division of Market Oversight (DMO)*, https://www.cftc.gov/About/CFTCOrganization/DMO (visited May 8, 2023).

[24] CFTC, *Division of Clearing and Risk (DCR)*, https://www.cftc.gov/About/CFTCOrganization/DCR (visited May 8, 2023).

[25] CFTC, *Market Participants Division (MPD)*, https://www.cftc.gov/About/CFTCOrganization/MPD (visited May 8, 2023).

[26] CFTC, *Division of Enforcement*, https://www.cftc.gov/About/CFTCOrganization/DOE (visited May 8, 2023).

[27] 17 C.F.R. § 1.20.

[28] 17 C.F.R. § 38.200.

members,[29] and have rules concerning the protection of customer funds.[30] Finally, DCOs, or clearinghouses, must similarly segregate customer funds and property,[31] maintain financial resources to cover its operating costs for a period of at least one year on a rolling basis,[32] and maintain accurate books and records that the CFTC and Department of Justice can request at any time.[33]

Further, the CFTC has overseen the introduction of digital asset derivatives linked to digital commodities like Bitcoin and Ether. These include futures, swaps, and options listed on CFTC-regulated DCMs and SEFs, with prices made by CFTC-regulated dealers, cleared by CFTC-regulated DCOs, and access provided by CFTC-regulated IBs and FCMs. Before a SEF or DCM can list a product for trading, it must either meet the submission requirements of CFTC Rule 40.2 or the CFTC must approve the product under CFTC Rule 40.3. For digital commodity derivatives, the CFTC's Division of Market Oversight has established a "heightened scrutiny" framework for new products prior to their approval or listing.[34] Further, many of these entities, and their market activities, are subject to additional oversight and examination by the National Futures Association ("NFA") and the exchanges themselves (such as the CME Group) in their capacity as a self-regulatory organization.

Finally, it is important to recognize the important role played by NFA, to which the CFTC has delegated certain authority. NFA, as a member organization or self-regulatory organization, examines its CFTC registrant members for compliance with NFA rules. NFA recently announced that over 100 NFA Members have reported to NFA that they engage in digital asset-related business activities, both in commodity interest and spot markets.[35]

For several decades, NFA has exercised its authority to protect customers, particularly retail customers, from fraud, abuse, and misconduct. Over time, NFA has taken steps to protect customers engaged in retail forex activities, as well as imposing high standards of commercial honor and just and equitable principles of trade on NFA member activities.

In the last few years, NFA has been at the forefront of investor protection in the context of digital assets. In 2017, NFA issued an investor advisory to remind investors that, just like any other speculative investment, trading futures on virtual currencies, including

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[29] 17 C.F.R. § 38.600.

[30] 17 C.F.R. § 38.603.

[31] 17 C.F.R. § 39.15.

[32] 17 C.F.R. § 39.11.

[33] 17 C.F.R. § 39.20.

[34] *See Advisory with respect to Virtual Currency Derivatives Product Listings,* CFTC Staff Advisory No. 18-14 (May 21, 2018).

[35] NFA, *Notices to Members* (Mar. 29, 2023), https://www.nfa.futures.org/news/newsNotice.asp?ArticleID=5552 ("NFA Notice I-23-10").

Bitcoin, have certain benefits and various risks.[36] In 2018, NFA issued a new disclosure requirement for NFA Members engaging in virtual currency products.[37]

Most recently, NFA adopted a new compliance rule, NFA Rule 2-51, for its members which imposes anti-fraud, just and equitable principles of trade, and supervision requirements on NFA Members and Associates that engage in digital commodity activities.[38] NFA determined to adopt this new rule because, with the exception of the disclosure required by Interpretive Notice 9073, NFA does not impose any specific requirements on its members with respect to spot digital commodity activities.[39] NFA Rule 2-51 also requires NFA Members and NFA Supervisory Associates to diligently supervise these activities. This rule, which only applies to digital commodities, becomes effective on May 31, 2023.

V. With Congressional direction, the SEC and CFTC can build on a history of cooperation and joint regulation, including the implementation of joint rules adopted for new products and markets.

During the development and implementation of the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank"), I was in private practice, advising financial market participants on the various legislative proposals and, later, proposed and final rules adopted by the CFTC and SEC.

Just as the regulation of swaps and security-based swaps resulted from joint legislative efforts from these two Committees and coordination in the implementation of that law by the CFTC and SEC, I believe digital asset regulatory policy can be successfully developed and implemented by the two Commissions with Congressional direction.

To be clear, I believe legislation is necessary to provide the necessary clarity on how digital asset regulation should be implemented. The best approach should distinguish between the regulation of digital asset securities and digital commodities.

Regulatory cooperation can be modeled off of the SEC and CFTC's joint adoption of fundamental Dodd-Frank rules that established basic components of each

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[36] NFA, *NFA Investor Advisory—Futures on Virtual Currencies Including Bitcoin* (Dec. 1, 2017), https://www.nfa.futures.org/investors/investor-advisory.html.

[37] NFA Interpretive Notice 9073 (eff. Oct. 31, 2018), https://www.nfa.futures.org/rulebooksql/rules.aspx?Section=9&RuleID=9073. The disclosure requires NFA members to include the following:

> [NAME OF NFA MEMBER] IS A MEMBER OF NFA AND IS SUBJECT TO NFA'S REGULATORY OVERSIGHT AND EXAMINATIONS. HOWEVER, YOU SHOULD BE AWARE THAT NFA DOES NOT HAVE REGULATORY OVERSIGHT AUTHORITY OVER UNDERLYING OR SPOT VIRTUAL CURRENCY PRODUCTS OR TRANSACTIONS OR VIRTUAL CURRENCY EXCHANGES, CUSTODIANS OR MARKETS.

[38] NFA Compliance Rule 2-51 (eff. May 31, 2023), https://www.nfa.futures.org/rulebooksql/rules.aspx?Section=4&RuleID=RULE%202-51.

[39] *See* NFA Notice I-23-10.

Commission's regulatory regime. This included determining what products were swaps and security-based swaps,[40] as well as what entities qualified as swap dealers and security-based swap dealers.[41] These rules were jointly adopted by the SEC and CFTC in 2012, demonstrating a commitment to establishing baseline rules that both agencies, and market participants, could follow.

At the time, then-CFTC Chair Gensler noted that the adopted rulemaking "provides clarity on the dividing line between 'swaps' and 'security-based swaps'," noting that "[t]hese dividing lines and the process will benefit market participants, as they will provide greater clarity as to what regulatory requirements apply when they transact in the derivatives markets."[42] Further, when most of the SEC's Dodd-Frank security-based swap rules were adopted after the CFTC's corresponding regulations had been completed, the SEC used the CFTC's implementation experience to inform its rules.[43]

I believe the same principles and approach that worked for over-the-counter derivatives could apply to digital assets, and clear delineation of what constitutes a digital asset security and a digital commodity would equally benefit market participants and provide greater clarity as to the regulatory requirements that will apply when engaged in digital asset market activity.

While serving at the CFTC, I was fortunate enough to participate in the CFTC's revisions to certain Dodd-Frank regulations, including amendments to the definition of "swap dealer."[44] In this capacity, I had the chance to work with my colleagues at the SEC and participate in a very collaborative process, which ultimately resulted in amendments to CFTC rules. The coordination came from the leadership at the top, with Chairmen J. Christopher Giancarlo and Jay Clayton working closely together and encouraging our teams to do the same.[45] In doing so, the Chairmen "recognize[d] that it is important for both Commissions to provide market participants with consistent and comparable regulations to the extent practicable."[46]

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[40] Further Definition of "Swap," "Security-Based Swap," and "Security-Based Swap Agreement"; Mixed Swaps; Security-Based Swap Agreement Recordkeeping, 77 Fed. Reg. 48,208 (Aug. 13, 2012).

[41] Further Definition of "Swap Dealer," "Security-Based Swap Dealer," "Major Swap Participant," "Major Security-Based Swap Participant" and "Eligible Contract Participant," 77 Fed. Reg. 30,596 (May 23, 2012).

[42] 77 Fed. Reg. at 48,363.

[43] *See* SEC Press Release, *SEC Adopts Actions to Stand Up Security-Based Swap Regulatory Regime* (Dec. 18, 2019), ("In addition, the rule amendments and guidance reflect consultation with the Commodity Futures Trading Commission (CFTC). Many market participants are active in markets regulated by both the Commission and the CFTC, as such participants may use instruments regulated by the Commission to hedge risks in products regulated by the CFTC, and vice versa.")

[44] De Minimis Exception to the Swap Dealer Definition, 83 Fed. Reg. 56,666 (Nov. 13, 2018).

[45] CFTC, *Joint Statement from Chairmen Giancarlo and Clayton on the IDI Exception to the Swap Dealer Definition* (Dec. 13, 2018), https://www.cftc.gov/PressRoom/SpeechesTestimony/giancarlostatement121318.

[46] *Id.*

This message was reinforced by CFTC and SEC Commissioners who led efforts to have CFTC and SEC staff share ideas on how to better reconcile differences in the Commissions' rules.[47]

Successful coordination between the CFTC and SEC extends beyond writing rules for derivatives. The agencies work together in regulating other areas of US financial markets.[48] They also have a shared history of examining digital assets,[49] and have come together in times of unique market challenges.[50] Working with Congress, I believe the same will be true for digital assets in the future.

VI. Conclusion

Chairmen Johnson and Hill, Ranking Members Lynch and Caraveo, I have great optimism that the U.S. can successfully develop and implement a "whole of government" regulatory approach for digital assets and digital asset markets that will foster innovation and protect customers.[51]

Convening a joint hearing with your subcommittees on this very important topic is a productive step in the right direction. I look forward to supporting you, your colleagues in Congress, and at the CFTC and SEC as you continue your work.

I am happy to answer your questions.

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[47] SEC Public Statement, *CFTC-SEC Joint Meeting* (Oct. 22, 2020), https://www.sec.gov/news/public-statement/peirce-joint-cftc-2020-10-22.

[48] Form PF; Reporting Requirements for All Filers and Large Hedge Fund Advisers, 87 Fed. Reg. 53,832 (Sept. 1, 2022).

[49] Jay Clayton & J. Christopher Giancarlo, Opinion, *Regulators Are Looking at Cryptocurrency*, Wall St. J. (Jan. 24, 2018), https://www.wsj.com/articles/regulators-are-looking-at-cryptocurrency-1516836363 ("The CFTC and SEC, along with other federal and state regulators and criminal authorities, will continue to work together to bring transparency and integrity to these markets and, importantly, to deter and prosecute fraud and abuse. These markets are new, evolving and international. As such they require us to be nimble and forward-looking; coordinated with our state, federal and international colleagues; and engaged with important stakeholders, including Congress.").

[50] SEC Press Release, *Joint Statement on Opportunistic Strategies in the Credit Derivatives Market* (June 14, 2019), https://www.sec.gov/news/press-release/2019-106 ("[T]he Chairmen and Chief Executive of our respective agencies announce that the agencies will make collaborative efforts to prioritize the exploration of avenues, including industry input which will address these concerns and foster transparency, accountability, integrity, good conduct and investor protection in these markets.").

[51] *See* Ensuring Responsible Development of Digital Assets, Exec. Order No. 14067, 87 Fed. Reg. 14,143 (March 14, 2022).

Written Statement of Timothy G. Massad*

before the

Subcommittee on Digital Assets, Financial Technology and Inclusion

U.S. House of Representatives Financial Services Committee

and the

Subcommittee on Commodity Markets, Digital Assets and Rural Development

U.S. House of Representatives Committee on Agriculture

"The Future of Digital Assets: Measuring the Regulatory Gaps in the Digital Asset Market"

May 10, 2023

Chairman McHenry and Ranking Member Waters, Chairman Thompson and Ranking Member Scott, Subcommittee Chairman Hill and Ranking Member Lynch, Subcommittee Chairman Johnson and Ranking Member Caraveo, members of the committees and staff, I am honored to be testifying before you today.

Since 2014, when I became chairman of the Commodity Futures Trading Commission, I have spoken publicly and repeatedly about the need to strengthen digital asset regulation. Four years ago, I wrote a paper published by the Brookings Institute that began with the following sentence: "There is a gap in the regulation of crypto assets that Congress needs to fix."[1]

The gap I talked about then was the absence of a federal regulator for the spot market in crypto tokens that are not securities, such as bitcoin. It still exists, and it is made more complicated by the ongoing debate we have had about how to classify digital assets: are they securities or commodities, or something else?

If there is one thing I ask you to remember from my testimony today, it is that there are essentially two paths we might follow to fix that gap, and I believe one is

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[1] Timothy Massad, *It's Time to Strengthen the Regulation of Crypto-Assets*, The Brookings Institute, p. 2 (Mar. 2019), https://www.brookings.edu/research/its-time-to-strengthen-the-regulation-of-crypto-assets/ (hereinafter "Massad 2019").

vastly preferable. I will explain those in a moment, after I provide a bit more background.

It was during my tenure as chairman of the CFTC that the agency declared bitcoin and other virtual currencies to be commodities. This gave the agency authority to regulate derivatives based on such commodities, but its authority over the spot market for any commodity is quite limited.[2] By contrast, the Securities and Exchange Commission has jurisdiction over the spot market for any digital asset that is a security.

Chair Gary Gensler of the SEC says most tokens are securities and the problem is a lack of compliance with existing legal requirements.[3] Industry participants complain about a lack of clarity in the rules for resolving this issue and have called for regulators to create a new set of rules specifically for crypto.

Meanwhile trading and lending platforms claim they are only dealing in tokens that are not securities—thereby avoiding direct federal oversight. As a result, investor protection on crypto trading and lending platforms is woefully inadequate. These platforms do not observe standards common in our financial markets that ensure protection of customer assets, prohibition of conflicts of interest, prevention of fraud and manipulation, and adequate transparency, among other things. That was made painfully obvious last year by the failures of trading platform FTX, crypto lender Celsius, the Terra/Luna stablecoin and others, resulting in hundreds of thousands of investors suffering losses.

There are other gaps in crypto-asset regulation. One is the lack of a federal regulatory framework for stablecoins. The report of the Financial Stability Oversight Council issued last fall identified additional gaps consisting of the opportunities for regulatory arbitrage and "whether vertically integrated market

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[2] The CFTC has authority to bring enforcement actions for fraud and manipulation in the spot market and to regulate certain retail leveraged transactions, but it does not have the authority to prescribe standards under which trading platforms or other intermediaries must operate. For a discussion of the CFTC's authority, see ibid, pp. 32-33 as well as Timothy Massad and Howell Jackson, *How to improve regulation of crypto today—without Congressional action—and make the industry pay for it,* The Brookings Institute, pp. 8-9 (October, 2022), https://www.brookings.edu/research/how-to-improve-regulation-of-crypto-today-without-congressional-action-and-make-the-industry-pay-for-it/ (hereinafter "Massad-Jackson 2022").

[3] See, for example, Chair Gensler's testimony before the U.S. House of Representatives Financial Services Committee on April 18, 2023, at https://financialservices.house.gov/calendar/eventsingle.aspx?EventID=408690

structures can or should be accommodated under existing laws and regulations.[4] While I agree with these findings and share the concerns in the FSOC report, and will make some brief comments about the absence of a federal regulatory framework for stablecoins at the end of my testimony, I will focus on the gap in regulation of the spot market.

How do we fix this gap?

Many suggest that we rewrite securities law so as to define a category of digital assets that do not constitute securities, and give the CFTC jurisdiction over spot market activity involving those assets.[5] While there are different formulations of this approach, the risk in all these proposals is that creating new regulatory categories of assets at this time might generate more confusion than clarity, and lead to disputes over their own meaning that could take years to resolve. Some of these definitions could undermine decades of securities law and jurisprudence. Moreover, unless there is some basic disclosure about a digital asset, it is difficult to know how to classify it.

Today, I want to suggest that there is another path forward. It would increase investor protection quickly without rewriting decades of law in one bill. It would not diminish the existing authority of either the SEC or the CFTC, and it would allow responsible digital innovation to go forward.

The idea is to create a baseline of investor protection by recognizing that many of the standards we need are the same regardless of whether a token falls in the securities or commodities bucket. Congress would pass a law mandating that any trading or lending platform that trades or uses bitcoin or ethereum must comply with a set of core principles for all tokens traded or used on that platform, unless the platform has already registered with the SEC or CFTC as a securities or derivatives intermediary. The principles would include protection of customer assets, prevention of fraud and manipulation, prohibition of conflicts of interest, adequate disclosure to investors, regular reporting, pre and post trade transparency, risk management and governance standards, among others.

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[4] Financial Stability Oversight Council, *Report on Digital Asset Financial Stability Risks and Regulation*, p. 5 (October 2022), https://home.treasury.gov/system/files/261/FSOC-Digital-Assets-Report-2022.pdf (hereinafter the "FSOC Report").

[5] In my 2019 paper, I proposed that either the Securities and Exchange Commission or the Commodity Futures Trading Commission be given authority to regulate the spot market for crypto assets that are not securities. Either agency is capable of doing so ***provided*** it is given sufficient resources. I know first hand the challenges faced by the CFTC because of its limited budget, and the task of regulating the crypto asset (non-security) spot market would require significant resources.

Congress would direct the SEC and the CFTC to develop joint rules implementing these principles. Rules could also be developed by creating a new self-regulatory organization (SRO) jointly supervised by the SEC and the CFTC. SROs have been critical to the regulation of our securities and derivatives markets for decades, and there is precedent for SROs registered with both the SEC and the CFTC.[6] The SRO could also be charged with enforcing the rules.

I believe this approach has several advantages. It is simple. It focuses on the core of the problem. It is practical and feasible. It can be implemented quickly and efficiently. It does not rewrite existing law in ways that may create more confusion than clarity. And it is incremental. Let me explain each of these aspects and then provide some greater detail and background.

First, simplicity: the approach uses a definition of jurisdiction that does not require rewriting securities laws to create a new digital asset or digital commodity category. While we may wish to do that down the road, I believe it is premature. We do not need to do that because the requirements would apply to *all tokens* on any trading or lending platform that trades bitcoin or Ethereum, the two largest tokens in the market. That would capture all significant platforms. The investor protection principles are already well-known in financial market regulation, and therefore should command wide support.

Second, it focuses on the core of the problem. Over 90% of spot market trading is estimated to occur through centralized intermediaries.[7] This approach would dramatically improve investor protection on those platforms. Simply eliminating wash trading—where someone trades with themselves or an affiliate to inflate the price or trading volume of an asset, and which has been estimated to represent 50% or more of the trading on crypto platforms[8]--would be a huge improvement. I

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[6] See Massad-Jackson 2022, *supra* note 2.

[7] See Coingecko, 2022 Annual Crypto Industry Report which estimated that as of the end of 2022, centralized exchanges had 93% of market share.

[8] *See* Lin William Cong et al., *Crypto Wash Trading* (July 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3530220 (estimating that wash trades account for 70 percent of volume on unregulated cryptocurrency exchanges); *see also* Jialan Chen et al., *Do Cryptocurrency Exchanges Fake Trading Volume?* 586 Physica A 126405 (Jan. 15, 2022); Matthew Hougan, et al., *Economic and Non-Economic Trading In Bitcoin: Exploring the Real Spot Market For The World's First Digital Commodity*, Bitwise Asset Management (May 24, 2019), https://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5574233-185408.pdf (study demonstrating that "95% of reported trading volume in bitcoin is fake or non-economic in nature"); Javier Paz, *More Than Half of All Bitcoin Trades are Fake*, Forbes (Aug. 26, 2022), https://www.forbes.com/sites/javierpaz/2022/08/26/more-than-half-of-all-bitcoin-trades-are-fake/?sh=11ea350b6681; *see also* Steve Inskeep et al., *How "wash trading" is perpetuating crypto fraud*, NPR (Sept. 23, 2022), https://www.npr.org/2022/09/23/1124662811/how-wash-trading-is-perpetuating-crypto-fraud.

believe this approach would also take some of the speculative air out of the sector's sails generally. The proposal can also cover decentralized platforms, as the agencies or SRO can be directed to develop appropriate adjustments to rules for those as well.

Third, it is practical and feasible. It is based on the market as it exists today. It would not require a bifurcation of all trading into one platform for security tokens and one for commodity tokens. This is particularly useful because crypto trading involves pairs of tokens that might be classified into different buckets. It is feasible because the SEC and the CFTC have the experience to implement the principles and there are precedents for them working together. By forming an SRO, they could draw on the expertise of existing SROs such as the Financial Industry Regulatory Association (FINRA) and the National Futures Association (NFA). Finally, the cost of the SRO's activities could be imposed on the industry through membership fees, consistent with existing practice.

The approach would not involve rewriting existing securities or commodities law. There would be no changes to the definition of security, which might not only fail to bring clarity to crypto; that might unintentionally undermine decades of regulation and jurisprudence as it applies to traditional securities and derivatives markets.

In particular, the law should make clear that the SEC and CFTC would retain their existing authority. For example, the SEC could still contend that any particular token is a security. If it prevailed in any particular case, an intermediary would have to comply by ceasing to deal in that token, or only doing so on a registered platform. But the intermediary would not be shut down as long as it was complying with these basic standards. This would assure the platforms, and their customers, that operations will continue—on a far more responsible basis—while classification and other issues are resolved.

The approach would also create the disclosure we need to sort out classification issues. Platforms would be required to make sure there is some basic information available about a token before listing it. We cannot know whether a token represents an investment in a common enterprise, the value of which may increase because of the managerial efforts of others, unless such disclosure exists. And some basic disclosure would enhance investor protection as well.

Finally, the approach is incremental in several ways. It does not seek to regulate all crypto transactions or all players in the crypto world from the get-go or resolve the classification questions. While comprehensiveness is desirable, it can take a long time to build consensus, and it is much harder to get it right. This is way to do something incremental quickly that can protect millions of investors and serve as a foundation which can be added to and improved over time.

How Did We Get Here?

Former SEC Chairman Jay Clayton and I have advocated essentially this approach in a Wall Street Journal op-ed late last year. We wrote about how "the unique genesis of crypto assets. . . complicated the regulatory challenge.

> Unlike other financial innovations, bitcoin was launched globally and directly to retail consumers, with a claim that it would make traditional intermediaries obsolete. Because financial regulation is implemented on a national basis and largely through intermediaries, this "global retail" path of emergence has challenged regulators as traditional tools are less effective." [9]

It is ironic that an innovation that claimed it would make traditional intermediaries obsolete actually created a whole new category of intermediaries—crypto trading and lending platforms. These new intermediaries are also less accountable than the traditional ones that the creator of bitcoin and many crypto proponents complain about.

Former Chair Clayton and I went on to say that other complicating factors have been the fact that "the use case of many crypto assets is often cloudy"—it is not always clear whether a particular token offers an investment opportunity, access to goods or services, or a banklike product. In addition, the U.S. has a fragmented financial regulatory system with multiple regulators responsible for different product areas.[10] These factors have all contributed to the lack of a strong investor protection framework.

Achieving Investor Protection Now

A key virtue of this approach is that it will allow us to improve investor protection without having first to resolve questions of which tokens are securities and which

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[9] Jay Clayton and Timothy Massad, How to Start Regulating the Crypto Markets—Immediately," The Wall Street Journal, (Dec. 4, 2022), https://www.wsj.com/articles/how-regulate-cryptocurrency-markets-11670110885

[10] *Ibid.*

are commodities. Crypto trading platforms are all quick to say they do not trade or list any tokens that are securities, but there is significant variation in what they do actually list, which should make us ask why that is the case.

For example, as of a recent date, the four largest U.S. platforms—Binance U.S., Coinbase, Gemini and Kraken, listed approximately 60 tokens in common, such as bitcoin and ethereum.[11] Each platform, however, lists a lot more tokens. The number ranges from over 250 (Coinbase) to about half that amount (Gemini). Collectively, the four platforms list a total of around 400 different tokens, and each one lists many tokens that none of the others list.

If each platform is confident that all the tokens it lists are not securities, why don't they list more tokens in common? Would they say all 400 tokens are not securities and claim their selection is based on other factors?

There are surely other factors that are considered, but it seems unlikely these would account for the degree of difference. For example, Coinbase says it considers other factors such as "customer demand (i.e., trading volume, market cap), traction of token/application (i.e. token holders) and anticipated liquidity."[12] Changpeng (C.Z.) Zhao, the co-founder and chief executive officer of Binance.com, once put it more bluntly: "If a coin has a large number of users, then we will list it. That's the overwhelming significant attribute." [13]

While it would seem reasonable for platforms to consider consumer demand, one would expect that criteria to lead to platforms listing the same tokens, not different tokens. And if instead selections reflect the platforms' different judgements about technical or security issues, that would suggest a need for better disclosure about tokens that are listed.

The SEC has some pending enforcement actions that may bring greater clarity to the question of which digital assets are securities. But that is uncertain and could take time, during which investors will continue to be at risk. Moreover, even if the SEC prevails in particular cases, it may face a game of whack-a-mole, where proponents of other tokens and the trading and lending platforms themselves argue that other tokens are different from the particular facts of an SEC victory,

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[11] These numbers are based on a manual comparison of listings noted on their respective websites.
[12] Coinbase Exchange, "Listing Prioritization Process & Standards," (Oct. 2022), https://assets.ctfassets.net/c5bd0wqjc7v0/1DqPApt37t3uBHAMFUxPyI/4fa9169f9a8d90191d322635e597bfda/Coinbase_Exchange_Listing_Prioritization_Process_and_Standards.pdf
[13] Helen Partz, "Binance CEO reveals one key factor for token listings," Cointelegraph, (Nov. 30, 2021), https://cointelegraph.com/news/binance-ceo-reveals-one-key-factor-for-token-listings

triggering further litigation. My approach provides a way to improve investor protection without interfering with the exercise of the SEC or CFTC's authority or the proper role of the courts in resolving those questions. Indeed, if the SEC succeeds in establishing that a token is a security, then trading in that token would need to be on an SEC registered exchange. But we do not need to wait for any such case to be resolved.

Congress can also defer trying to define a new category of asset that is not a security. This may be something appropriate for the future, but the absence of a consensus on how to write that definition—there have been several proposals made-- shows how challenging it is. That was also illustrated by the separate hearings held last week by the two subcommittees. Of the nine other witnesses who testified, only two made specific proposals—one said all digital assets should be securities, and another said all digital assets should be treated as commodities. The others called on Congress to rewrite the law but without offering specifics:

"It is critical to provide clarity . . ."

"This [referring to which digital assets fall under SEC or CFTC jurisdiction] is an important debate and one that I will not resolve today."

"This lack of definitional clarity is highly problematic . . .This is an area where more work needs to be done."

"Making this call [as to whether a digital asset is a security or a commodity] is not so clear cut. . . Congress should step in with a new regulatory approach tailored to this asset class."

"Congress should provide a clear definition of and delineation between Digital Commodity and Digital Security, or when a digital asset is neither."

"Tailored, fit-for-purpose rules for this nascent industry are critical."

"Once Congress establishes a clear, workable test to determine which assets should be appropriately regulated as securities (itself a difficult task, to be sure), Congress should find that facilitating a transparent and well-regulated market for these assets is in the public interest . . ."[14]

[14] For testimony of witnesses see https://financialservices.house.gov/calendar/eventsingle.aspx?EventID=408718 and https://agriculture.house.gov/calendar/eventsingle.aspx?EventID=7604

The path I am proposing creates a requirement for the basic disclosure that will help us figure out how to classify digital assets or how to define a new category. We cannot even judge whether a digital asset meets the elements of the Howey test without some basic information about the development, governance and operation of the asset. That is, one cannot determine if ownership of an asset represents an investment of money in a common enterprise with the expectation of profit from the managerial efforts of others without some basic facts. Moreover, basic information, including about the technology of a particular asset, would enhance investor protection. Platforms would be required to make sure such information exists before listing a token as noted below.

The Principles

The principles that Congress would articulate would be familiar ones used in our securities and derivatives markets. The list could include the following:

- governance standards (including fitness standards for directors and officers);
- protection of customer assets, including segregation and protection in bankruptcy;
- conflicts of interest (including prohibitions or limitations on the ability of trading platforms to engage in proprietary trading or having financial interests in listed assets);
- having adequate financial resources, including capital and margin;
- recordkeeping and periodic public disclosures;
- execution and settlement of transactions in a competitive, open, efficient and timely manner
- pre- and post-trade transparency requirements;
- prevention of fraud, manipulation and abusive practices (including prevention of wash trading);
- disclosures to customers, including regarding fees, recourse, and dispute resolution;[15]

[15] Howell Jackson and I noted in our SRO paper (*see* note 2) that some have been critical of FINRA's arbitration proceedings for investor disputes involving securities transactions. *See, e.g.*, Mark Egan et al., *Arbitration with Uninformed Consumers*, Harvard Business School Finance Working Paper No. 19-046 (May 11, 2021),

- risk management practices;
- operational resilience, cybersecurity standards and business continuity and disaster recovery policies; and
- know your customer (KYC), anti-money laundering (AML) and combating financial terrorism (CFT) standards. [16]

As noted above, there would also be a requirement that a platform must make sure there is disclosure regarding a token, whether provided by a person seeking admission of a token to trading or otherwise. This is the approach taken in the new Regulation of the European Parliament and of the Council on Markets in Crypto-assets (MiCA), which provides that a crypto token cannot be listed unless there is a white paper on file that provides basic information.[17] The disclosure requirements need not mirror existing securities law requirements. Georgetown Law Professor Chris Brummer has argued that Regulation S-K, the SEC's primary disclosure regulation, is both "over-inclusive and under-inclusive" with respect to crypto: "it fails in some instances to account for critical aspects of the digital assets ecosystem, and in others imposes obligations with little to no relevance, creating both a lack of clarity and inefficiency in compliance."[18] The approach suggested here allows for development of disclosure requirements without undercutting

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https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3260442. Whatever concerns one might have about FINRA arbitration proceedings as currently implemented, the point to recognize is that consumers investing in crypto-asset markets now have no mechanism for supervised dispute resolution. Moreover, the most stringent system of oversight currently under debate for crypto-assets—full compliance with SEC requirements—implicitly contemplates the application of FINRA arbitration requirements. Conceivably a crypto-asset SRO might adopt better arbitration rules, but whatever rules they adopt would most likely be an improvement upon the status quo.

[16] See *also* Massad and Jackson (2022), *supra,* note 2.

[17] The white paper must contain "(a) information about the offeror or the person seeking admission to trading; (b) information about the issuer, if different from the offeror or person seeking admission to trading; (c) information about the operator of the trading platform in cases where it draws up the crypto-asset white paper; (d) information about the crypto-asset project; (e) information about the offer to the public of the crypto-asset or its admission to trading; (f) information about the crypto-asset; (g) information on the rights and obligations attached to the crypto-asset; (h) information on the underlying technology; (i) information on the risks; (j) information on the principal adverse impacts on the climate and other environment-related adverse impacts of the consensus mechanism used to issue the crypto-asset.

These requirements are spelled out in further detail in an appendix. There is also a requirement that the paper not contain any material omission. *See* European Parliament, "Position of the European Parliament adopted at first reading on 20 April 2023 with a view to the adoption of Regulation (EU) 2023/… of the European Parliament and of the Council on markets in crypto-assets, and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937" (April 24, 2023), Procedure: 2020/0265(COD), *available at* https://www.europarl.europa.eu/doceo/document/TA-9-2023-0117_EN.html#title2

[18] Georgetown Law Professor Chris Brummer has argued that Regulation S-K, the SEC's primary disclosure regulation, is both "over-inclusive and under-inclusive" with respect to crypto: "it fails in some instances to account for critical aspects of the digital assets ecosystem, and in others imposes obligations with little to no relevance, creating both a lack of clarity and inefficiency in compliance. Chris Brummer, Georgetown Law School, *Testimony before the Agriculture Committee of the U.S. House of Representatives, Subcommittee on Commodity Exchanges, Energy, and Credit* (June 23, 2002), https://docs.house.gov/meetings/AG/AG22/20220623/114931/HHRG-117-AG22-Wstate-BrummerC-20220623-U1.pdf.

existing securities law which would continue to apply to any token ultimately deemed a security.

The Broader Social Goals Served by this Approach

In addition to improving investor protection, requiring intermediaries to observe these principles will serve some broader policy goals. It will strengthen our ability to prevent crypto markets from being used for illicit activity. It will give regulators greater information that can help prevent any potential risks to financial stability. Requiring crypto intermediaries to have stronger resiliency standards and cybersecurity protections—which is critical given how common hacks and outages have been—can also help reduce the risk that such hacks and attacks result in collateral damage to other parts of the financial system.

Implementing the Approach Through a Self-Regulatory Organization

While Congress could direct the SEC and the CFTC to jointly develop and enforce rules implementing the principles, a more efficient approach may be to have the two agencies create and supervise a self-regulatory organization that would do so. Professor Howell Jackson of Harvard Law School and I have written about how such an approach could work in a recent paper.

The "self-regulatory" aspect of an SRO does not mean lax standards, as long as the SRO is properly supervised by the SEC and CFTC. On the contrary, our country's SROs have been important components of the regulation of our securities and derivatives markets for decades. They have been central to the development and implementation of strong standards, as well as enforcement of those standards against industry participants.

Although the SEC and CFTC have authority to create an SRO without legislation, and there are precedents for joint SROs,[19] having Congress direct the agencies to do so would make clear the importance of and authority for such an approach. A jointly supervised SRO is also appropriate given the fact that both the SEC and CFTC have some jurisdiction over crypto. To the extent there are some differences in existing law with respect to an agency's authority over or relationship to an SRO (such as in the process for approving rules), those could be harmonized or resolved in favor of one approach over another.[20] An SRO could

[19] *See* Massad-Jackson 2022, at note 2.
[20] For example, under current law, the SEC must approve an SRO's proposed rules; if the CFTC does not object to a proposed rule, it is deemed approved.

make it easier to conduct supervision and enforcement, because those activities could be conducted by SRO staff rather than joint teams of the two agencies. The Congress could also make clear that the SRO would be financed from industry member dues, as is the practice with existing SROs.

State Law Cannot Fill the Gaps

We cannot rely on state law to address the gaps in crypto regulation. The state law requirements that are imposed today on crypto trading firms by most states are minimal, arising primarily from state money transmitter laws. Those laws have their origins in the telegraph era, and generally impose only minimal requirements pertaining to net worth, security and permissible investments. They do not provide a regulatory framework comparable to that created by the federal laws and regulations governing the securities and derivatives markets. (They do trigger a requirement to register as a money service business with the Treasury Department and the application of the Bank Secrecy Act, which imposes anti-money laundering and other requirements.) Relying on state law would be analogous to relying on state blue sky laws to regulate the securities market after the crash of 1929, rather than what we actually did—which was to pass the Securities Act, the Securities Exchange Act and the other laws that are the foundation of the strongest capital markets in the world.

I should note that there are efforts in a few states to strengthen state law to address the obvious lack of investor protection in the crypto sector. One of the most notable is the proposal made by the New York Attorney General (NYAG) last week, which proposes sweeping new regulations, including prohibitions on conflicts of interest in the industry and standards to prevent fraud and manipulation on trading platforms.[21] I applaud the NYAG for seeking to address these issues. However, I do not agree with some of the particulars of the approach, and I believe these are issues that Congress must address. Otherwise we will face inconsistency between different states' requirements, which will create opportunities for regulatory arbitrage that the FSOC report highlighted.[22]

The Path Forward Should Not Depend on Views on the Value of Crypto

[21] "Attorney General James Proposes Nation-leading Regulations on Cryptocurrency Industry," May 5, 2023, https://ag.ny.gov/press-release/2023/attorney-general-james-proposes-nation-leading-regulations-cryptocurrency

[22] *See supra* note 4.

A recent Economic Report to the President issued by the White House takes a very negative view on the value of crypto to date:

> "In addition to the decentralized custody and control of money, it has been argued that crypto assets may provide other benefits, such as improving payment systems, increasing financial inclusion, and creating mechanisms for the distribution of intellectual property and financial value that bypass intermediaries that extract value from both the provider and recipient. . . So far, crypto assets have brought none of these benefits. . . Indeed, crypto assets to date do not appear to offer investments with any fundamental value . . . instead, their innovation has been mostly about creating artificial scarcity in order to support crypto assets' prices—and many of them have no fundamental value."[23]

Those who question the fundamental value of the crypto sector may believe that regulating crypto trading and lending firms will tend to legitimize or encourage more investment in a sector we should prefer to see decline, move offshore or at least not grow. By contrast, there are those who will argue that the United States is failing to create a regulatory framework that encourages the development of technology they believe is transformative and is deserving of a dedicated regulatory regime. They worry that important innovation will move overseas.

I continue to hold the views expressed in my 2019 paper:

> ". . .whether [crypto assets] are the next big thing or modern-day Dutch tulips should not determine whether or how we regulate them. There is nothing so exceptional about crypto assets that justifies giving them a regulatory pass. Nor should they be taxed or regulated out of existence. A traditional principle of financial market regulation in the United States has been to refrain from normative judgements about investments, require transparency and integrity in markets and let investors make their own decisions. We should follow that same principle here."[24]

This is important also as other jurisdictions work to clarify their crypto regulatory regimes. The possibility that activity moves abroad may not reduce risk to our markets or our citizens; it could simply make it harder for regulators to monitor and regulate that risk.

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[23] The White House, Economic Report of the President, p. 238 (March 2023), https://www.whitehouse.gov/wp-content/uploads/2023/03/ERP-2023.pdf

[24] Massad 2019 *supra* at note 1, p. 6

The approach I am suggesting can find support on both sides of the political aisle. Former SEC Chair Jay Clayton and I advocated essentially this same approach in our Wall Street Journal op-ed late last year. We began by noting that "only someone who has been living under a rock could think cryptocurrency markets don't need stronger regulation."[25] We proposed that the SEC and CFTC develop a set of common, basic investor protection requirements and require platforms to adopt them if they haven't already registered with the SEC as a securities intermediary or with the CFTC as a derivatives intermediary. This would strengthen investor protection without either agency relinquishing any authority while classification and other issues are resolved.

In short, this is a proposal that people on both sides of the aisle, and people with different views on the merits of crypto, can support.

Another Critical Gap: The Lack of a Federal Regulatory Framework for Stablecoins

I wish to discuss briefly another critical gap, which is the lack of a federal regulatory framework for stablecoins, which are used extensively in the crypto spot market. Stablecoin market capitalization has grown quickly in the last few years, and has not declined dramatically despite the fact that the crypto market has generally lost two-thirds of its value since late 2021. The risks posed by stablecoins have been described in detail in two recent government reports--the report of the President's Working Group on Financial Markets, the Federal Deposit Insurance Corporation and the Office of the Comptroller of the Currency,[26] and the report of the FSOC previously noted.[27] I will therefore not summarize those risks, nor the inadequacies of present regulation which are also described in those reports. Both those reports call on Congress to pass new legislation to provide specific authority to regulate stablecoins.

I believe we need to bring stablecoin activity within the federal regulatory perimeter rather than attempt to keep it outside. I believe that is a better way to oversee and manage the risks that stablecoins pose, both to consumers and to the

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[25] *See supra*, at note 9.

[26] President's Working Group on Financial Markets, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency, *Report on Stablecoins* (Nov. 1 2021), https://home.treasury.gov/system/files/136/StableCoinReport_Nov1_508.pdf (hereinafter the "PWG Report").

[27] FSOC report, *supra* at note 4.

traditional financial system and financial stability generally. Limiting interconnections between crypto and the traditional banking sector generally, which appears to be the current policy of our bank regulators, may slow the growth of certain crypto activities, but it risks pushing the activity overseas, or to less-regulated or non-regulated areas of financial activity. That could ultimately make it harder to oversee and manage the risk. Bringing the activity within the regulatory perimeter is also the best way to realize any positive potential that stablecoins might offer. Although stablecoins are used mostly within the crypto sector today, they might have potential to improve payments in other areas.[28]

Professors Jackson of Harvard Law School and Dan Awrey of Cornell Law School and I wrote a paper recently outlining how such a regulatory framework could be created today by our financial regulators (primarily our banking regulators) under existing law without new legislation. However, our bank regulators appear reluctant or unwilling to do so unless given specific authority by Congress.

Therefore, I support legislation that would create a framework for stablecoin regulation based on principles followed primarily in our regulation of banks. As long as stablecoins are used as a payment mechanism, and do not pay interest or a return to their holders, I believe it is best to regulate them as payment instruments. There need to be prudential requirements on the issuer, including that stablecoins be fully backed by reserves in the form of cash or high quality liquid assets as well as capital and liquidity requirements. Operational requirements on the stablecoin issuer are necessary as well, such as KYC and AML requirements, risk management standards, cybersecurity, and restrictions on use of customer data. There should be standards on the issuer's selection and oversight of decentralized blockchains on which stablecoins are transferred. There also need to be standards requiring interoperability of stablecoins and prevention of concentration of power, as well as limitations on certain commercial affiliations.

The Digital Assets Policy Project at the Harvard Kennedy School, which I direct, held a roundtable on stablecoin regulation last November attended by senior leaders from government, the stablecoin industry, traditional financial institutions, academia and others. Although the event was conducted under Chatham House rules, a summary of the discussion and other materials, including comparisons of different legislative proposals on stablecoins, can be found at the Digital Assets Policy Project website.

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[28] In the interests of full disclosure, I note that I am a member of PayPal's Advisory Council on Blockchain, Crypto and Digital Currencies. I am testifying in my personal capacity and the views I express are entirely my own.

I would be happy to answer any questions. Thank you.

Testimony by

Marco Santori, Chief Legal Officer, Kraken

Before the
U.S. House Financial Services Committee Subcommittee on Digital Assets, Financial Technology, and Inclusion and the

U.S. House Agriculture Committee Subcommittee on Commodity Markets, Digital Assets, and Rural Development

"The Future of Digital Assets: Identifying the Regulatory Gaps in Digital Asset Market Structure"

Wednesday, May 10, 2023, 9:30am

Chairman Hill, Chairman Johnson, Ranking Member Lynch, Ranking Member Caraveo, and members of the subcommittees:

Thank you for the opportunity to testify before you today.

My name is Marco Santori. I am the Chief Legal Officer at Payward, Inc. d/b/a Kraken (Kraken). I oversee all legal, regulatory, and policy matters impacting Kraken's global business operations. In this role, I manage over 50 lawyers and professionals around the world with deep and diverse public and private sector backgrounds.

I was one of the first lawyers practicing in the area of digital asset regulation. I have advised clients in this ecosystem for over a decade - nearly since blockchains were invented. I am honored to appear before this joint subcommittee hearing today. This cooperation across committees and across party lines demonstrates both the willingness and the ability for Congress to pass effective laws for the digital asset industry. Congressional action is critical for the United States to keep pace as other leading economies around the world advance frameworks for digital asset markets that protect consumers and support innovation.

We are at an important juncture in the development of U.S. digital asset policy. Domestically, in the absence of clear federal law, a patchwork of state legislations are advancing to close consumer protection gaps. Abroad, new fit-for-purpose regulatory frameworks are developing, drawing innovation and American consumer interest away from the United States. Now is the time for Congress to act.

My testimony focuses on three main topics:

I. Kraken's approach to risk management, security, and customer protection
II. Current gaps in U.S. rules that can be addressed by Congress
III. Legislative and regulatory advancements in other developed economies

I. OUR GLOBAL BUSINESS IS DESIGNED TO SUPPORT SAFE AND EFFICIENT DIGITAL ASSET MARKETS

Kraken was founded in San Francisco in 2011. Since then, we have steadily grown into a diversified, global digital asset business serving over 10 million customers around the world. Our mission is to accelerate the adoption of cryptocurrency so that the world can achieve financial freedom and inclusion. We continually strive to offer the most secure and transparent execution platform, deepest liquidity, and the best user experience in our markets.

The societal value of digital assets extends far beyond remittance and is changing the way we conduct business globally. New and exciting use cases include identity verification, storing medical records, crowdfunding and peer-to-peer lending. Digital assets empower people with new ways to transact in a borderless, real-time, and fair manner. Decentralized applications do not and cannot discriminate on the basis of race, gender, citizenship, or socioeconomic status. Everyone participates under the same rules and associated benefits.

Kraken has a team of over 2,000 professionals that operate on a remote-first basis. Today, our team spans the globe across more than 60 countries. We collaborate and advance our mission through a virtual environment with ideas and contributions from a wide range of geographies, professional backgrounds, cultures, ethnicities, and viewpoints. Our diversity is a competitive strength. It aligns us with the 24/7/365 global nature of our markets and the dynamic community of customers and innovators we serve.

Governance, including managing conflicts of interest, is central to our operating model. We benefit from experienced boards at our holding company and subsidiaries that bring together deep public and private sector experience.

Kraken offers a diverse range of products and services.

We provide products and services to retail and institutional customers that support key components across the digital asset market value chain. These include:

- **Trading -** We offer spot market trading, a custodial NFT marketplace, and futures in eligible jurisdictions.
- **Index services** - We operate the world's leading digital asset index business via our regulated index provider, CF Benchmarks, one of our UK-based businesses. CF Benchmarks is registered with and supervised by the UK Financial Conduct Authority (FCA). Our index customers include some of the largest global exchanges, asset managers, and other institutional market participants.
- **Staking -** Kraken provides clients in eligible jurisdictions with the ability to use their assets to secure proof-of-stake blockchain networks, contributing to the strength and security of digital asset ecosystems. By providing these services at scale, we enable individuals with smaller quantities of tokens to participate in these important governance functions where they wouldn't otherwise be able.
- **Kraken Bank -** Kraken Bank, one of our U.S. businesses, is chartered as a Special Purpose Depository Institution (SPDI) and supervised by the Wyoming Division of Banking. The SPDI charter has two innovative hallmarks: first, it prohibits the bank from lending; second, all deposits must be backed 1:1 by highly liquid assets.

Security is core to our culture.

Kraken is consistently named one of the most secure places to buy and sell digital assets due to our robust security for client assets. We take a comprehensive approach to protecting our systems and our clients from malicious actors:

- Kraken uses layers of identity verification and fraud prevention safeguards to combat identity theft, sanctions evasion, and money laundering. Platform users are identified in compliance with Know Your Customer (KYC) and Anti-Money Laundering (AML) standards that are equivalent to those used by banks and other financial institutions.
- Our robust AML controls include transaction monitoring, blockchain analytics, investigation, and suspicious activity reports (SARs).
- We proactively report suspicious activity to law enforcement. We also work closely with law enforcement to improve our reporting and undertake proactive two-way intelligence sharing.
- We undertake comprehensive investigations in response to law enforcement requests and other referrals.
- We invest significant resources in building and updating educational tools and resources to help our team members and customers spot common fraud warning signs and empower our customers as the first line of defense.
- We operate a best-in-industry client engagement team, who offer phone support 24/7, as well as open chat, social media and ticket support to help our clients trade digital assets safely.

We invest heavily in regulatory engagement and compliance.

As jurisdictions develop new rules for digital assets operations, we engage with regulators globally to serve customers in a compliant manner. We currently hold a number of registrations, licenses, authorizations and approvals across the globe. In the United States, Kraken maintains a registration as a Money Services Business with FinCEN and holds money transmitter licenses. Kraken Bank is supervised by the Wyoming Division of Banking under an SPDI charter. We also hold licenses and registrations across the UK, European Union, Canada, and Australia, among other developed and emerging markets.

Kraken is committed to supporting policy makers here in the U.S. and around the world to implement effective domestic rules and a coherent international regulatory framework for digital asset markets.

II. GAPS IN U.S. REGULATION REQUIRE CONGRESSIONAL ACTION TO EFFECTIVELY REGULATE DIGITAL ASSET MARKETS

There is precedent for effective cooperation between these committees and between the SEC and CFTC to develop and implement tailored rules for market regulation. For example, the statutory and regulatory creation of Swap Execution Facilities (SEFs) considered the different market and liquidity dynamics, product structure, and trading protocols of the swaps markets and their trading venues relative to other securities and derivatives markets. This was possible because Congress provided a clear roadmap for inter-agency cooperation on swaps regulation through the Dodd-Frank Act.

As described below, there are gaps in U.S. regulation that can be resolved with a clear mandate from Congress that will:

1. Establish a functional standard and process for drawing clear jurisdictional lines;
2. Create a viable path to regulate centralized digital asset exchanges where SEC jurisdiction has been defined by Congress;
3. Expand CFTC authority to regulate spot digital asset markets and exchanges;
4. Mandate interagency cooperation to facilitate coordinated oversight over digital assets and centralized exchanges; and
5. Define transitional arrangements to minimize market disruption and protect retail investors.

Congressional action is needed to resolve regulatory gaps.

1. **Establish a functional standard and process for drawing clear jurisdictional lines**

Kraken has a robust process for reviewing assets prior to supporting them on our platform. This process includes comprehensive risk, economic, and legal assessments. Kraken does not make assets available that fall within any definition of security in the U.S. Some digital assets are clearly commodities and some are not. Our industry needs a bright line and clear process to provide the market with legal certainty for the considerable number of assets in between.

A fundamental goal of the U.S. securities laws is to provide the public with truthful disclosure about material risks that may impact their investment, thereby empowering citizens to make their own decisions. The disclosure requirements and standards for traditional securities under the Securities Act of 1933 do not work well for digital assets. For example, what is “material” information related to a publicly traded company is likely to be very different than what is material for a decentralized, blockchain-based asset. The value of a digital asset - unlike the value of stocks and bonds - is often not dependent on the issuer’s operations or financial condition. Forcing digital assets into the existing corporate disclosure regime deprives consumers of the most valuable information while overwhelming them with the least valuable.

2. **Create a viable path to regulate centralized digital asset exchanges where SEC jurisdiction has been defined by Congress**

Digital asset trading platforms cannot be regulated like National Securities Exchanges (NSEs).

Extensive evidence in the public record illustrates the practical barriers to NSE registration for digital asset platforms, including:

- Digital asset trading platforms interact directly with retail clients. National securities exchanges, by contrast, permit only broker-dealers to participate.
- Securities exchanges are not set up for global, 24/7 trading. Stocks on NSEs trade only during regular market hours. Digital assets trade 24/7, with no pressures on price or volume created by opening and closing times. Digital asset prices and volumes are subject to market forces at all times.
- U.S. securities exchanges form part of a National Market System (NMS) and they trade exclusively NMS securities. Digital asset platforms trade a variety of assets that will fall under CFTC jurisdiction, such as Bitcoin (BTC), Ethereum (ETH), and other digital asset commodities.

Digital asset trading platforms cannot currently be regulated as Alternative Trading Systems (ATSs) without modifications.

SEC-Registered ATSs function like exchanges, but are regulated by FINRA and the SEC as broker-dealers. Currently, there are very few broker-dealers, and even fewer ATSs, that are registered with FINRA to trade digital assets. These ATSs are currently only permitted to trade digital assets that are securities. In the SEC's current view, ATSs cannot trade non-securities such as BTC, ETH, or stablecoins.

Today, any digital asset trading platform that is registered as an ATS would have to immediately stop trading all digital assets they currently trade, either on the SEC's theory that such assets are unregistered securities, or because such assets are non-securities. This would create significant market disruption. For example, BTC and ETH, which are commodities, account for 60% of digital asset market capitalization.

Digital assets are held, traded, custodied, and settled in a different manner than equity securities. No ATS or other broker-dealer is currently permitted to custody customer digital assets, which is vital to smoothly and securely trade digital assets on an ATS.

To resolve these gaps, Congress can create a new registration category for centralized digital asset markets that:

- Remains open to direct retail participation, as ATSs are, and not be limited to requirements that customers are registered broker-dealers (as with NSEs).
- Reduce friction by being open to the trading of non-security digital assets (such as BTC, ETH, or stablecoins) side-by-side with digital assets that are determined to be securities.
- Have in place a rulebook that has been reviewed and approved by the SEC or CFTC.

3. **Expand CFTC jurisdiction to regulate spot digital asset markets and exchanges**

Measured by market value, most digital assets are commodities in the U.S. The CFTC currently lacks statutory authority to develop a comprehensive regulatory framework for spot digital commodity markets. The CFTC has a successful track record of regulating the digital asset futures markets, which play an integral role in a healthy and functioning spot market. The Commodity Exchange Act (CEA) should be amended to empower the CFTC to regulate spot digital asset markets, beyond policing fraud and manipulation, and should also provide a workable registration framework for centralized digital asset markets.

4. **Mandate interagency cooperation to facilitate coordinated oversight over digital assets and centralized exchanges**

With clear jurisdictional lines drawn, regulated digital asset platforms should have a clear path to registration at the CFTC and SEC. Each agency, where appropriate, should have inspection and examination authority over platforms that make digital assets available to trade. This is consistent with the approach adopted for swaps regulation. For example, a trading facility for swaps may be simultaneously registered as a Swap Execution Facility (SEF) with the CFTC, and as a Security-Based Swap Execution Facility with the SEC. As with SEFs, entities that are registered with one regulator should be allowed an abbreviated registration process with the other regulator. The Commissions should also be permitted to refer potentially violative conduct to each other for enforcement and share data. Rules on market integrity should be developed jointly by the CFTC and the SEC for consistent application.

5. **Define transitional arrangements to minimize market disruption and protect retail investors**

The creation of new, regulated trading platforms, the allocation of jurisdiction, and the establishment of inter-agency mechanisms for cooperation will take time. Until these new mechanisms can be firmly established, transitional arrangements should be put in place to allow digital asset markets to continue to operate with minimal disruption, and as little harm as possible to retail investors.

The SEC has the power to grant temporary conditional relief from Exchange Act requirements to platforms. For example, the SEC provided broad exemptions from traditional securities market rules that it determined were not compatible with security-based swaps. Such exemptive relief can be made conditional on digital asset platforms meeting certain requirements, such as maintaining and enforcing rules around market integrity, custody, and conflicts of interest. Such conditional relief would enable the orderly transition to regulated digital asset markets, without compromising investor protection.

III. DEVELOPED MARKETS AROUND THE WORLD ARE ADVANCING EFFECTIVE REGULATION

Traditional rules are being tailored to create effective regulation.

Digital asset markets are naturally global. Many jurisdictions, including the majority of G20 nations, have finalized, are progressing, or have signaled their intention to create a new regulatory framework for digital asset markets.

In the EU, the Markets in Crypto Assets Regulation (MiCA) has combined the most effective components of traditional market regulation and applied them in a bespoke manner to create a comprehensive and effective framework for digital assets. MiCA includes a licensing framework to conduct specific activities (*e.g.,* issuance, brokerage, custody, exchange), prescribes governance arrangements, mandates uniform transparency and disclosure requirements, and addresses conflicts of interest, among many other fundamental elements of market regulation. EU lawmakers broadly defined tokens as "crypto assets" rather than attempting to apply traditional definitions to the entire market. MiCA sets clear transitional measures to avoid market disruption.

The UK is also amending existing financial service frameworks to reflect the unique characteristics and opportunities of digital assets. HM Treasury's recent consultation builds on the UK government's ambition to create a global hub for these markets within an effective regulatory perimeter.

Other developed markets like Singapore and Switzerland have also finalized foundational components of their digital asset frameworks and continue to advance other rules to develop a more comprehensive framework. Canada, Australia, Hong Kong, and South Korea are in various stages of their legislative and regulatory processes.

Similar to other financial services sectors, we believe responsible and successful digital asset businesses and activity will be drawn towards jurisdictions with effective and clear regulatory frameworks that allow innovators, markets and investors to plan, build, and compete on a level regulatory playing field.

Global markets need a coherent international framework for regulation.

International standard setters and other multilateral organizations are working to achieve global consistency of regulatory frameworks, which is critical to ensuring customer protection in highly mobile digital asset markets.

Examples include:

- **Tax** - The Organisation for Economic Co-operation and Development (OECD) developed the Crypto Asset Reporting Framework (CARF) in 2022, which is intended to bring increased harmonization of tax regulations to digital asset transactions globally.
- **Anti-money laundering** - The Financial Action Task Force (FATF) updated its "Travel Rule" in 2022, which extends key AML/KYC requirements to virtual assets and virtual asset providers.
- **Prudential requirements** - The Basel Committee on Banking Supervision (BCBS) issued its guidance on the prudential standards for banks' exposure to crypto assets. As market regulation of digital asset markets strengthens, we expect capital rules to evolve accordingly.
- **Financial stability** - The Financial Stability Board (FSB) has been coordinating the work of national financial authorities and other international standard setters. The FSB published a consultation in October 2022 on regulation, supervision, and oversight of crypto activities and markets with recommendations to follow this year.
- **Market regulation** - We are encouraged by the work of the International Organization of Securities Commissions (IOSCO) to develop global standards specific to market regulation of digital assets and digital asset exchanges. The CFTC and SEC should continue to work with peers from developed and emerging markets to establish a coherent system of regulating digital asset markets. These markets transcend borders in new ways relative to legacy markets. Different jurisdictions with different underlying political, legal and regulatory systems will take different paths towards regulating digital assets, but can still align on common outcomes.

Conclusion

We at Kraken, in partnership with our community of innovators, customers, peers and industry bodies, will continue to support our U.S. lawmakers in passing effective rules that will allow digital assets to thrive in the U.S.

Forcing this technology and a growing global asset class into existing U.S. securities rules without modifications simply does not work. We share concerns regarding the domestic and international consequences of this approach as we see other developed economies advancing effective legislation and regulation for digital assets. We can learn from our past successes in bringing markets under cooperative supervision by the CFTC and SEC.

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Prior to Kraken, Marco was the Chief Legal Officer of Blockchain.com, as well as a Partner at each of Cooley LLP and Pillsbury Winthrop, where he counseled banks, broker-dealers and fintech companies making new and exciting uses of distributed ledger technology. Marco is an author of the SAFT Project Whitepaper, a self-regulatory effort to address initial coin offerings. He has served as an advisor to the International Monetary Fund, the Blockchain Ambassador to the State of Delaware, and was first the Chairman of the Regulatory Affairs Committee of the Bitcoin Foundation.

May 10, 2023

Testimony of Daniel Schoenberger

Chief Legal Officer, Web3 Foundation

Before the United States House of Representatives House Financial Services Subcommittee on Digital Assets, Financial Technology and Inclusion and House Agriculture Subcommittee on Commodity Markets, Digital Assets, and Rural Development

On behalf of the Web3 Foundation and the Polkadot ecosystem, I would like to thank Chairman McHenry, Chairman Thompson, Chairman Hill, Chairman Johnson, and Ranking Member Waters, Ranking Member Scott, Ranking Member Lynch, Ranking Member Caraveo, and other members of the committees for the opportunity to testify today regarding blockchain technology and the benefits Web 3.0 ("Web3"), the next iteration of the internet, will bring to the entire world. We are at the forefront of Web3, which will give more control back to individuals and provide efficiencies and innovations not yet imagined.

I am Daniel Schoenberger, the Chief Legal Officer at the Web3 Foundation. I joined the Foundation following a lengthy tenure at Google as Head of Legal for Switzerland & Austria and their EMEA Legal Lead for AI Policy. I have worked at the intersection of emerging technologies and law, ethics, society, philosophy, and public policy for more than 20 years.

Web3 Foundation

The Web3 Foundation ("the Foundation" or "W3F") was established in Zug, Switzerland, by Dr. Gavin Wood, former Co-Founder and CTO of Ethereum, and Founder of Polkadot.

Upon the completion of Ethereum, Dr. Wood was interested in how to provide an ecosystem where end users would not be required to purchase tokens for every transaction. Dr. Wood's view was that, ideally, every transaction should not require a token purchase. He believed that this requirement would ultimately become a barrier to blockchain adoption and that, as network usage grows, transactions should become less expensive due to scale, not increasingly expensive and slower to settle due to growth itself creating a bottleneck. As an unintended consequence, Ethereum's design also favored initial entrants to the network, a distinction that was counter to the ethos of Web3 – access by all.

Established on June 16, 2017, the Foundation was founded as a *Stiftung* under Swiss law. Under Swiss law, a *Stiftung* may only be formed for a specific and not-for-profit purpose and is subject to Swiss regulatory supervision to ensure that it acts in a manner consistent with such purpose. A *Stiftung* can be compared to an irrevocable trust under U.S. law, because, once set, a *Stiftung*'s initial purpose is very difficult to modify.

The Foundation was formed with the goal of establishing Web3. The Web3 vision was to provide a new internet infrastructure for any vertical and any use case. It wasn't about building a currency like Bitcoin, or a smart contract platform like Ethereum. It was about giving all of the siloed blockchains the ability to communicate with each other. To realize this vision, W3F conducts and funds research and development teams building the stack of technologies that form the basis of the decentralized web. Consistent with this broad goal, the Polkadot Network was built and

launched over a five-year period. The network's codebase and developer tooling were released as open-source software.

The Foundation's explicit purpose is set forth in its Notarial Deed:

> "*The Foundation's purpose is in nurturing and stewarding cutting-edge technologies and applications in the field of cryptographically-powered decentralized software protocols. A dominating but not exclusive focus is set on the research, development, deployment and maintenance of the "Web 3.0" technologies […] as well as the advocacy, education, developer-adoption, support of middleware and base-layer/demonstration applications relating to this protocol set.*"

The Foundation is supervised by the Swiss Federal Supervisory Authority for Foundations (ESA) and is in good standing with the regulator, and the Foundation is audited on a yearly basis by a third-party auditor.

Web3

To truly understand the impact of Web3, we must understand how we arrived at this point. The earliest iteration of the internet is known as Web 1.0. Web 1.0 was extremely limited, but it offered the opportunity to distribute information to large audiences across the world. Content was created by a small number of creators and was static. Information was simply posted and made available for users to view. This was known as the read-only internet. Users were able to read and access posted information. It was essentially a digital encyclopedia. There was no ability for two-way interaction. There were little to no visuals, controls, or the ability to easily refute information presented.

Web 2.0 is the internet we know and use today. As social media platforms and online businesses began to emerge, the internet transformed into Web 2.0. This upgraded internet features dynamic, interactive web pages, where users can read and write information as well as publish their own content for others to see. However, this version of the web comes with downsides, particularly with regard to data control, privacy issues, and the consequences of trust. Unfortunately, in the current construct of the internet, people have become the product. For instance, it may appear that a social media platform is the product which the user consumes, however, the fact is the user is the product being sold to advertisers and data aggregators that want to learn and/or influence the user's behavior. This is where Web3 comes into the picture.

Web3 is taking centralized infrastructure and applications and turning them into decentralized, trust-free protocols. The goal is to transform the internet into a decentralized web, where users control their own data and identity in a trust-free environment – trust-free meaning that trust is not placed with third parties to fulfill their part of the deal or to protect user data, but data is controlled by the users themselves. The Web3 movement aims to remove intermediaries and build trust-free infrastructure.

The Polkadot Network

In accordance with its purpose, the Foundation has developed a blockchain-based layer 0 protocol, known as the Polkadot Network, with a goal of progressing blockchain technology.

At its core, Polkadot is a piece of network infrastructure, a Web3 protocol that facilitates the innovation of developers and enables the growth of a Web3 ecosystem. It is a layer 0 blockchain

and operates one layer below incumbents like Bitcoin or Ethereum. Unlike many of the most popular names in Web3 technology, Polkadot is not a cryptocurrency or exchange. Rather, Polkadot is a vertical agnostic, use case agnostic infrastructure software platform upon which blockchains can be built — a blockchain of blockchains, exponentially increasing the capabilities of Web3 technology. While blockchains have demonstrated great promise in several fields — Internet of Things (IoT), finance, governance, identity management, web decentralization, and asset-tracking to name a few — design limitations in previous systems have largely hindered large-scale adoption.

The Polkadot Network is a next-generation blockchain protocol with the goal of uniting a wide network of purpose-built blockchains, which would allow such blockchains to operate together, sharing security seamlessly and at scale. Polkadot was created to allow developers to build new blockchains, to allow new and existing blockchains to communicate with each other, and to secure unique blockchains in a single ecosystem, whether they be public, permissionless networks, private consortium chains, or other Web3 technologies. It enables an internet where independent blockchains can exchange information under common security guarantees. This creates a level of interoperability and global scalability found on the Web 2.0 internet we use daily. The Polkadot Network has been designed with the intention that any type of data may be sent between and among any types of blockchain, potentially unlocking a wide range of real-world use cases, permitting new decentralized marketplaces to emerge, and offering fairer ways to access services through a variety of decentralized applications (DApps) and providers.

For comparison, think of Polkadot as the SMTP protocol (Simple Mail Transfer Protocol) of the internet used to send and receive email and Layer-1 blockchains such as Bitcoin or Ethereum as email providers like Yahoo or Google. Polkadot is the underlying infrastructure that allows these distinct programs to communicate with a seamless connection or interoperability. Without this infrastructure, this would not be possible. For example, Yahoo email account holders would be limited to communicating with other Yahoo users, requiring a user to create additional accounts to communicate with those using different email providers. However, the underlying infrastructure of the SMTP protocol allows someone to use any email provider to communicate with other email providers' users. Polkadot provides the same benefit to Web3 technologies. It breaks down the existing silos between incumbent blockchains. Polkadot provides pooled security, low friction, and full operational interoperability allowing otherwise siloed blockchains to connect and operate harmoniously at the scale of global commerce.

Polkadot has a democratized and fully on-chain form of governance in which only DOT holders determine the fate of Polkadot. All upgrades and changes to the protocol are subject to a proposal and referendum process by the developers/users operating in the ecosystem, and the protocol uses a proof-of-stake model to secure the network and verify transactions. Polkadot also maintains its on-chain treasury. Validators secure the network by staking DOT to run validating nodes and perform full verification of the Relay Chain. According to a recent study, Polkadot has the smallest carbon footprint within the industry, while being the largest decentralized autonomous organization (DAO) in existence. In addition, based on a recent independent study of blockchain protocols, Polkadot ranked at the top of the industry on the key industry metric used to determine the level of decentralization of a blockchain. With OpenGov soon to be launched, Polkadot will push the limits of decentralized governance even further.

At present, while certain blockchain networks permit decentralized transaction validation to occur on a specified blockchain, such validated transactions cannot be recognized on a different blockchain in a decentralized, cryptographically secure manner. Many within the digital asset space believe that achieving such recognition, or interoperability, securely across blockchains,

represents a critical step to enable a truly decentralized and scalable digital world. Scalability and frameworks for the governance of blockchain protocols have, in parallel, emerged as challenges to their usability — and decentralization.

The Foundation believes that the Polkadot Network's design, which includes Parachains and the Relay Chain (each as defined below) permits increased security for each individual Parachain as the total number of Parachains increases (i.e., that the Polkadot Network security effectively would be additive and cumulative across, rather than being divided among, Parachains) – in contrast to contemporary scaling approaches that divide the security and leaves the community vulnerable to its weakest link. Polkadot is closer to solving the blockchain trilemma between security, scalability, and decentralization than many other major blockchain projects.

Parachains

The Polkadot Network permits the decentralized development and operation of multiple blockchains, known as Parachains, which may be public or private, general or application specific. Individual Parachains may interact with one another through the base-layer Polkadot Network blockchain, referred to as the Relay Chain as well as with certain blockchains developed outside the Polkadot Network and connected via a Bridge Parachain.

The Polkadot Network's sharded architecture is designed specifically with a goal of maintaining network security as the number of Parachains increases. For that reason, the Foundation believes that blockchain projects and developers may be able to achieve a more secure network (and at a lower cost) by building a Parachain, rather than creating their own standalone blockchains.

Instrumental to the Polkadot Network's use is the technology stack Substrate, an open source-licensed set of tools, frameworks, and a programming language built by Parity Technologies (the Foundation's implementation partner), including for use in the Polkadot Network, that allows developers to build Parachains, DApps, and other blockchains in a highly customizable manner.

In addition, at least 600 companies and projects, including well-established, high-profile and household name organizations, are building blockchains on top of Polkadot. This includes more than 300 DApps and nearly 90 parachains that use infrastructure in connection with the Polkadot Network. Of them, approximately 59 are using Substrate infrastructure.

DOT: The Native Token of the Polkadot Network

The native token of the Polkadot Network is a blockchain-based, cryptographically-secure token known as DOT. It should be thought of as the orchestrating tool used to secure and govern Polkadot. Polkadot's ongoing operation requires DOT to be immobilized, bonded, or free-floating, as applicable. DOT's utility facilitates staking and governance of Polkadot. Additionally, DOT is used to obtain a Parachain slot.

Those who wish to create a Parachain must access free floating DOT to participate in a parachain slot auction. Similar to a business that leases a location in a shopping mall for a certain period of time, Parachain winners secure a lease of capacity in the Polkadot network for up to two years at a time. However, the DOT that is used to "lease" a parachain is more like a deposit, in that there are no ongoing payments, and the full amount of DOT is returned in full to the Parachain lessor and to the community participants at the end of the contract. During this time, the DOT used to secure the parachain is not traded or invested. This DOT is essentially locked on-chain during

use of the parachain slot. DOT is inherently interwoven with the Polkadot Network. Polkadot cannot exist without DOT and vice versa. Thus, like the overarching Polkadot Network, DOT is a piece of network infrastructure.

Launch of Polkadot

The journey of Polkadot began with the vision of an internet where developers and users have control, and the rules of the protocols are created and changed by developers and users by coming to a consensus. To facilitate the creation and launch of this ecosystem by providing both funding for the development of the platform and providing stakeholders with a critical component necessary to build on the platform, a token to be delivered at network launch, DOT was sold in private sales from 2017-2019. The purchasers of DOT were the non-U.S. developers and other entities that would build on the infrastructure created by Polkadot or expressed their interest in otherwise engaging with the Polkadot Network, e.g. by staking, validating, or participating in the Polkadot governance.

The Foundation began engaging with the Securities and Exchange Commission (SEC) in November 2019 – months before the actual launch process of Polkadot commenced in May 2020 – because the Foundation wanted to ensure compliance with U.S. securities laws. The Foundation believes that very few blockchain protocols, if any, engaged with the regulator in a way that altered their launch processes as it did with Polkadot. Each step of the launch process complied with U.S. federal securities laws. Throughout what turned out to be more than a three-year engagement, the Foundation adhered to generally accepted investor protection principles, both in practice and in spirit. In fact, to the Foundation's knowledge, only about one percent of initial coin offerings (ICOs) had made filings with the SEC with respect to exemptions from registration at the time of DOT's initial sale, and far less, if any, voluntarily shared offering documents, sale details and process, and exemption filings to be evaluated by the SEC.

W3F treated DOT as a security under U.S. federal securities laws during the private sales with the understanding that the determination of whether a token is a security is determined at the time of its offer and sale, not at the time of the token's delivery. Therefore, as indicated by the Telegram case, DOT was also treated as a security when it was delivered to initial purchasers.

DOT were offered, sold, and delivered pursuant to and in accordance with Regulation S and D, which provide exemptions from registration under the Securities Act of 1933 (as amended, the "Securities Act") and allowed for the sale of DOT to investors outside of the U.S. and to accredited investors. Before delivering DOT, W3F confirmed the identity of the original buyer through KYC and AML checks and additional due diligence. At delivery, W3F reconfirmed eligibility for the applicable exemptions which were in place at the time of the sale (e.g., location of purchaser, accreditation, and other requirements for exemption).

In August 2020, users received their tokens and began staking and declaring their intent to become stakeholders of Polkadot, and even earlier – in July of the same year – W3F removed the Sudo key giving up centralized control over Polkadot. This is considered by the Foundation to be the moment of decentralization because the Foundation no longer had the ability to "roll back" the network to make changes; all future updates would come from community governance, moving another step closer to complete decentralization. Finally, in December 2021, the launch process according to the Polkadot Whitepaper was complete when the first Parachains were launched.

DOT is no longer a security according to the Howey Test. DOT satisfied the factors set out in the Framework for Investment Contract Analysis of Digital Assets issued by the SEC's Strategic Hub for Innovation and Financial Technology (FinHub), indicating when a token initially offered and sold as part of an investment contract, and therefore a security, may be reevaluated and may no longer be a security. In addition, the Foundation has delivered what was promised in the whitepaper, and Polkadot has long been decentralized. Given DOT's functionalities and properties as digital representation of its holder's right to access and participate in the Polkadot Network, the Foundation thinks of DOT as merely coordinating software. The Foundation suggests putting DOT and other similar technology in a separate category, e.g. a class of "utility tokens." This approach has been taken in numerous other jurisdictions.

Regulatory Barriers

The United States is facing two primary obstacles to fully unleashing the power and innovation of blockchain and Web3 technology. The first is the lack of a comprehensive legislative framework for digital assets and blockchain technology. The second is an attempt by some to apply laws and regulations not specifically designed for blockchain technology and the digital asset space.

Regarding the first, we applaud the subcommittees for undertaking the hard work and deliberation necessary to develop a balanced, appropriate, and responsible legislative and regulatory framework to address this emerging innovation. We would ask that as you develop policy you do so with the understanding and approach that recognizes new technologies. To simply apply existing regulation would be inadequate and inappropriate to truly address this emerging industry and technology.

Many jurisdictions around the world are moving forward and establishing regulatory systems specifically designed to address digital assets and blockchain technology. In Switzerland, the Swiss Financial Market Supervisory Authority (FINMA) has implemented guidance which brought clarity to the industry. The Distributed Ledger Technologies (DLT) Act subsequently issued by the Swiss legislature provides a clear framework distinguishing between "payment tokens", "security tokens," and "utility tokens". In a no-action letter dated November 14, 2019, FINMA classified DOT as a utility token. In addition, the European Union has developed the Market in Crypto-Assets (MiCA) Regulation that includes its own class of utility tokens as well. Now is the time for the United States to move forward with a comprehensive regulatory framework for digital assets and blockchain regulation.

The most important regulatory concern for W3F is the classification of digital tokens. Under the current U.S. regulatory approach, almost all tokens are viewed as financial assets. A token is either a payment instrument, a commodity, or a security. However, this certainly is not the case for all tokens, and all tokens should not be treated as such. As a simple example, the chair I am sitting in could be tokenized, but it would not fit into those classifications. Not all tokens will fit the defined classifications that exist, and there will be some tokens that will have the characteristics of a particular asset class and at a time in the future will cease to have those characteristics. This is part of the nature and innovation of the blockchain technology industry.

A token can be used initially as a fundraising instrument. If a token is used for fundraising purposes, it should be subject to all applicable laws and regulations. However, that same token may serve a functional purpose devoid of speculative investment. This does not mean the token will have no value, but the primary purpose of the token will be to serve a functional purpose not to produce profit. For example, tickets are sold to attend events. The purpose of the ticket is to receive admission to the event. This is the only purpose of the ticket. It is not intended to serve

as currency or a store of value. However, an individual can purchase a ticket to an event without the intention of attending the event. Their intent may be to resell the ticket to create profit, but this does not change the purpose or functionality of the ticket.

We are not suggesting that the existence of different uses for a given token means that such a token should not be regulated. Additionally, while a token may initially serve one purpose which should be regulated under a particular classification, and later lose the characteristics of that classification, an organization, company, or entity should not be allowed to simply declare a change of classification without carrying out the necessary steps to ensure a token no longer possesses the characteristics of its initial classification.

In the case of DOT, the Web3 Foundation sold this token as a security in compliance with U.S. federal securities laws. Before the network launch, the Foundation had not yet delivered any digital assets to initial purchasers. While the Polkadot vision had not contemplated that the blockchain's native token would be a security, the Foundation understood that the SEC's view was likely to be that the to-be-delivered token would be a security, at least at the time of delivery. However, the ultimate purpose of Polkadot's native token was to serve as functional infrastructure for the network. DOT was not designed to be a speculative investment vehicle, it was designed to secure the network, support governance, and obtain parachain slots.

For over three years, the Foundation met regularly with the FinHub staff. In doing so, the Foundation adopted an approach to compliance that was similar to its approach to technical development: head down and dedicated, while setting the bar high. Since the outset, the Foundation attempted to break new ground in its interactions with the SEC, complying with U.S. federal securities laws, including with respect to the offer, sale, marketing, and delivery to initial purchasers of tokens as securities, and in its treatment of retail purchasers, generally in line with the way public companies are expected to treat retail purchasers.

The SEC welcomed meetings with the Foundation, and there has been a spirit of open communication and dialogue. Those interactions have given the Foundation a deeper understanding of some of the SEC's concerns and have helped to develop solutions to address them. Following this journey the Foundation is confident that DOT is no longer a security. However, even after putting in all the efforts to ensure compliance, the Foundation was left without any tangible validation in its hands. Also, the mere fact that the "process" lasted three years in itself demonstrates that the current approach to regulation is flawed. Three years in tech are an eternity.

Clearly, a process with the proper legislative authority to reevaluate a token for reclassification with external effect is necessary. The SEC has already outlined a process to evaluate the status of a digital asset. As mentioned previously, SEC staff in FinHub outlined the components for reevaluation in the "Framework for 'Investment Contract' Analysis of Digital Assets." In this analysis SEC staff presents a thorough interpretation of how a digital asset should be evaluated regarding its status as a security. The Foundation suggests that Congress establish a procedure through legislation to authorize regulators to reevaluate the status of tokens.

Over the years, the Foundation developed what it believes is a workable theory of how token reclassification may be achieved for an increasingly decentralized project, like Polkadot, and a digital asset that, other than having been offered and sold initially for fundraising purposes, does not itself bear any security-like characteristics.

It has been one and half years since the completion of the Polkadot launch process, which includes a truly decentralized governance mechanism and on-chain treasury. Consistent with the views that we have shared with the SEC staff, in the Foundation's view, current day offers and sales of DOT are not securities transactions, and DOT is not a security, it is merely a piece of network infrastructure. We look forward to helping the committees develop a comprehensive legislative framework for all token classifications in the U.S. and are confident that with clear laws, the U.S. will continue to lead the world in innovation.

In Conclusion

Web3 technology and the Polkadot Network offer unimaginable benefits to the United States and the world. This technology can give control of data back to users. It can bring efficiencies not only to financial services but also trade, property ownership, social media, and virtually every other facet of the global economy and daily life. This technology will be the next generation of the internet and how individuals interact online. However, without a sound regulatory framework tailored to the technology, the United States may not see the full benefits, and lose a leadership position in the development of blockchain technology.

At its infancy, the incredible benefits of the internet were unimaginable. When the first individual went to the moon no one knew the innovation it would unlock. Blockchain technology is the new frontier, and it is time to harness, nurture, and provide oversight and consumer protection to realize the life changing benefits waiting for this country and the world.

Appendix I

Examples of Polkadot Network Use Cases

As described above, Web3 is a new way of utilizing the internet that aims to improve upon existing Web 2.0 technologies. By using decentralized networks, Web3 projects offer increased security, privacy, and transparency and solve many of the issues the Web 2.0 era has created. Below are examples of Web3 use cases and projects currently built within the Polkadot ecosystem:

Social Media

Frequency offers a social media optimized infrastructure giving users full control over their data. It facilitates a secure, open source, universally accessible social graph that offers a means to democratize and decentralize social media. It will allow users to switch between social media platforms at will while maintaining full control over their data and their social connections, so they don't lose their social graph when moving to a new network. The public social graph is independent of private company database servers and there are no financial incentives offered through crypto tokens, making this project distinct from typical blockchain-based social networking projects.

MeWe is a social media app with 20 millions users that is building on Frequency. The integration will give users back control over their data. The app is the next generation in online communications, envisioning a social and chat app that would give people everywhere the most exciting and helpful sharing technology with privacy built into the design - where members would feel safe and respected. Users will be able to share their data across social media apps and have control of what data appears on specific social media apps.

Business and Supply Chains

OriginTrail - Knowledge graphs are database structures that form a fundamental component of the internet as we know it today, representing the relationships that exist between data, real-world entities, events, and concepts, and powering some of the most highly adopted services, from Google Search to Wikipedia. But the centralization of today's knowledge graphs brings several shortcomings, including siloed data, a lack of transparency, and the inability for data owners to have sovereignty over their data.

OriginTrail is the world's first Decentralized Knowledge Graph (DKG), addressing many of these issues and bringing knowledge graph technology into the age of Web3.

The platform provides a shared infrastructure based on blockchain technology that enables seamless data exchange between businesses and customers, which can lead to better decision-making and improved efficiency in the supply chain. Anything from supply chain data, consumer goods or digital collectibles can be evolved into discoverable and verifiable Web3 assets, driving transparency and trust in the global economy. Already, over 40% of US imports are enabled with OriginTrail technology to foster secure exchange of security audits, with companies using the platform accounting for $1.5 trillion in purchasing power.

Gaming

Mythical Games -The Mythical Platform is a full-service system for developers and publishers to build or integrate blockchain-based play-to-earn economies into their games, increasing engagement and unlocking new business and game models by making blockchain accessible and allowing players to become stakeholders in their favorite games. The Mythical Platform is the underlying technology of a peer-to-peer marketplace, and manages trades, payments, users and blockchain inventory. The marketplace unlocks the value of a player's monetary and time-based efforts, or the rarity of their collection, by making it possible for buyers and sellers to transact confidently in a secure and trusted environment.

The Mythical Platform includes built-in regulatory KYC/AML compliance and indemnity. The simple-to-use verified wallet ensures easy pay-in and payout of both fiat and crypto currencies, with Mythical acting as merchant of record.

Mythical offers features including authentication, inventory management, live events, player data storage & identity, account admin tools, insights/analytics, self-service tooling and more that integrate directly with the Mythical Platform and help partners bring their play-to-earn games and NFTs to market faster and more efficiently.

Privacy, Intellectual Property

KILT is a self-sovereign identity platform that allows users to safely prove identity and credentials while giving away only the information that they want to share, without centralized data silos. In Web 2.0, organizations accumulated silos of user identifications creating monopolies, based on massive amounts of centralized data. These databases are a honeypot for attackers and place users in a more precarious and less sovereign position than in the non-digital world. KILT provides individuals with control over their own data and identity, while also providing a secure and efficient way for businesses and organizations to verify identity and credentials. This can help to reduce the risk of identity theft and fraud, as well as improve security and privacy.

InvArch is a platform that brings intellectual property protection to the blockchain. The protocol utilizes blockchain technology to allow individuals to tokenize and store their intellectual property (IP) as intellectual property files (IPFs) and utilize programmable IP Tokens pegged to an IP. Moreover, this technology will provide a mechanism for instantly validating content and flagging duplicated files. This protocol will serve as a foundation for a new global economy of decentralized ownership and management that will help streamline innovation and opportunity.

Internet of Things (IoT)

Robonomics is a platform for controlling Internet of Things (IoT) and real-world devices through their blockchain. Communication between the user and device happens using the most successful technologies from the Web3 world – IPFS, Ethereum, and Polkadot. Thus, developers can create modern and secure applications for Smart Cities and Industry 4.0. Robonomics enables individuals and businesses to securely and efficiently control and manage their devices and systems, while also providing a transparent and decentralized platform for IoT management.

Nodle is a decentralized network for IoT that incentivizes users for turning their smartphones into nodes that secure the network and provide connectivity for devices around them in a decentralized wireless network (DeWi). In this way, smart devices without an Internet connection can communicate without the need for additional infrastructure. The current infrastructure of IoT

systems is slow, insecure, and centralized, it struggles to scale in a secure and transparent way. Blockchain and decentralization remove third-party risk, upgrade security with tamper-proof technologies, and automate complex data processing and transactions. This is why Nodle has been adopted in 100+ countries on over a million devices and has already processed millions of transactions.

Art

Beatport.io is a digital collectible marketplace bringing electronic music culture to Web3. This platform will enable record labels and artists to create and sell unique digital assets while generating greater fan engagement. It allows artists, producers, and record labels to enjoy the benefits of Web3, while also giving music fans an opportunity to explore the value of digital collectibles and deepen their connection to their favorite artists and DJs.

These digital collectibles can also become fan engagement tools for artists and labels by providing early access to bonus features such as unreleased tracks, discounted tickets, and access to global events and interactive experiences. This gives fans and artists a variety of new content streams, creating new communities while the artists reap the majority of the return.

Sustainability

BitGreen is creating a community-driven carbon credit marketplace and impact investing platform that enables users to invest directly in critical sustainability initiatives. The platform encompasses a suite of decentralized applications and impact investment options across carbon credits, green project financing, green bonds, and more. In many cases green projects are unable to effectively fund their operations. BitGreen is a platform designed to improve current carbon-neutral innovations such as Carbon Credits and deliver high-quality green finance innovations. Currently, green financing has a multi-trillion-dollar funding gap that is the result of multiple pain points, notably restricted investment opportunities, project discoverability, and a lack of liquid exchange markets. BitGreen addresses this issue with a decentralized system, community-led marketplace, green projects, as well as transparency across investing, tracking, and auditing carbon credit and impact investment opportunities. BitGreen has partnered with various organizations to support environmental causes and encourage sustainable practices.

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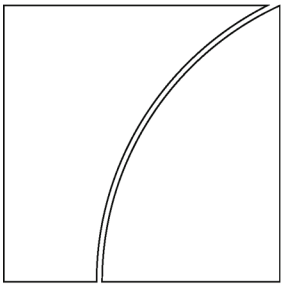

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Crypto trading and Bitcoin prices: evidence from a new database of retail adoption

Raphael Auer, Giulio Cornelli, Sebastian Doerr, Jon Frost and Leonardo Gambacorta[1]

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Abstract

Prices for cryptocurrencies have undergone multiple boom-bust cycles, together with ongoing entry by retail investors. To investigate the drivers of crypto adoption, we assemble a novel database (made available with this paper) on retail use of crypto exchange apps at daily frequency for 95 countries over 2015–22. We show that a rising Bitcoin price is followed by the entry of new users. About 40% of these new users are men under 35, commonly identified as the most "risk-seeking" segment of the population. To establish a causal effect of prices on adoption, we exploit two exogenous shocks: the crackdown of Chinese authorities on crypto mining in mid-2021 and the social unrest in Kazakhstan in early 2022. During both episodes price changes have a significant effect on the entry of new users. Results from a PVAR model corroborate these findings. Overall, back of the envelope calculations suggest that around three-quarters of users have lost money on their Bitcoin investments.

JEL classification: E42, E51, E58, F31, G28, L50, O32.

Keywords: Bitcoin, cryptocurrencies, cryptoassets, regulation, decentralised finance, DeFi, retail investment.

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1. Introduction

Over the past 13 years, cryptocurrencies have evolved from a niche technological proposal for peer-to-peer payments to a financial asset class traded by millions of users around the world. The largest cryptocurrency by market capitalisation remains Bitcoin, introduced in 2009 by an anonymous developer under the pseudonym Satoshi Nakamoto (2008). The price of Bitcoin rose from $1 in February 2011 to a peak of $69,000 in November 2021. Globally, it was estimated that over 220 million people owned a cryptocurrency in June 2021 – up from 5 million in 2016.[2]

To date, the volatile price of cryptocurrencies prevents them from becoming widely used as a means of payment. Nor is crypto used as a unit of account; the same volatility makes it impractical to set a fixed price in a specific cryptocurrency, or to use cryptocurrencies as a yardstick for valuing real economy flows. Moreover, the system is largely self-referential and does not finance real-world investments (Aramonte et al (2022)).

But why do people invest in cryptocurrencies? In advanced economies, there is evidence that distrust of domestic financial institutions or the domestic fiat currency is not a key driver.[3] As they fluctuate widely in value and can sustain only a limited volume of transactions,[4] cryptocurrencies are also not useful to date for payments in real transactions (purchases) or cross-border money transfers. Some users may however see cryptocurrencies as a store of value and safe haven (ie "digital gold") that cannot be appropriated. And certainly, cryptocurrencies could be seen as a speculative investment asset.[5]

In this paper, we shed further light on the role of speculative and safe haven considerations as drivers of cryptocurrency adoption. For this, we investigate the relationship between the use of crypto trading apps, Bitcoin prices and other macroeconomic variables. We assemble a novel cross-country database on retail downloads and use of crypto exchange apps at daily frequency for 95 countries over 2015–22.

Our main findings are as follows.

First, we show that a rise in the price of Bitcoin is associated with a significant increase in new users, ie entry of new investors. This positive correlation remains robust when we control for other potential drivers, such as overall financial market conditions, uncertainty or country characteristics. In particular, the price of Bitcoin remains the most important factor when we control for global uncertainty or volatility, contradicting explanations based on Bitcoin as a safe haven. Likewise, when controlling for variables that proxy institutional quality or trust, as well as the level of economic development, the Bitcoin price still has an economically and statistically significant effect on the number of new users and explains the lion's share of the variation in the entry of new users.

[2] See Blandin et al (2021) and de Best (2022). This is a lower-bound estimate of identity-verified users. The estimates are subject to uncertainty given the potential for users to have multiple accounts.

[3] See Auer and Tercero-Lucas (2022) and FCA (2021).

[4] See Boissay et al (2022).

[5] See Foley et al (2019), Hileman (2015), Knittel et al (2019) and Swartz (2020).

Second, analysing the demographic composition of app users we find that 40% of users are men under 35, commonly identified as the most "risk-seeking" segment of the population. These users are more sensitive to changes in the price of Bitcoin than female users and older men. We also find a user sensitivity for Android users, who tend to have lower incomes than iOS users.

Taken together, these patterns are consistent with the speculative motive being caused by feedback trading considerations, ie users being drawn to Bitcoin by rising prices – rather than a dislike for traditional banks, the search for a store of value or distrust in public institutions.

A concern for our estimation strategy is that the entry of new users could also lead to price increases, raising concerns about reverse causality. To address this issue, we perform two complementary analyses. First, we focus on two specific episodes: the crackdown of Chinese authorities on crypto mining activities and the social unrest in Kazakhstan. During both episodes, structural changes affected the global price of Bitcoin, independently of changes in the number of users in other countries. We find that the exogenous change in the Bitcoin price during both episodes had a strong and significant effect on the entry of new users. Second, we estimate a panel vector autoregression (PVAR) model, tackling endogeneity issues by means of a Cholesky decomposition which orders the Bitcoin price last.

Our contribution to the literature is to provide cross-country evidence that retail investors enter the market following Bitcoin price increases. We speak to papers that seek to explain Bitcoin pricing, from a theoretical and empirical perspective (Garratt and Wallace, 2018; Bolt and van Oordt, 2019; Schilling and Uhlig, 2019; Shams, 2020; Liu and Tsyvinski, 2021; Biais et al, 2022). We complement recent evidence on investors' decision to buy cryptocurrencies and stocks, which helps to explain the recent positive correlation in price movements (Somoza and Didisheim, 2022). With our novel new dataset, we are able to assess retail trading adoption at the country level over time, thus better understanding the link between prices and the entry of new retail investors. Moreover, we are able to show how feedback trading, by which past price changes drive buying and selling (Koutmos, 1997; Daníelsson and Love, 2006) is present in crypto markets.

Our findings also have relevance for policy discussions on the regulation of cryptocurrencies for consumer and investor protection and financial stability reasons. Indeed, simple simulations suggest that, at the time of writing, 73-81% of users had likely lost money on their investments in cryptocurrencies. Analysis of blockchain data finds that, as prices were rising and smaller users were buying Bitcoin, the largest holders (the so-called "whales" or "humpbacks") were selling – making a return at the smaller users' expense. Our findings raise concerns that individual decisions are backward-looking and that many retail investors are not fully informed of the risk or volatility of the crypto sector. As recent events have made clear, rising interest rates and other shocks can lead to a persistent fall in prices, as the dynamics that buoyed the market move into reverse.

The paper is organised as follows. Section 2 introduces our dataset and empirical approach. Section 3 presents our key empirical findings on crypto app use and Bitcoin prices. Section 4 presents a number of extensions that further underscore the causal nature of the results. Finally, section 5 concludes.

2. Data description

Our data on adoption of crypto apps come from Sensor Tower, a proprietary app intelligence data provider. Sensor Tower collects data on various app statistics, among which downloads and active use, for apps from the Apple and the Google Play store. These statistics are available for up to 95 countries, where the country refers to the location of the downloading users. The data are at daily frequency. Additionally, we collect information on the operating system of the downloading device – Apple iOS vs Android users, whereby the former is a common proxy for relatively higher-income individuals (see Berg et al (2020)).[6] We also have information on the gender (men vs women) and age group (young vs old) of the user downloading the app. The latter are only available at the app-quarter level. For our empirical analysis, we draw on more than 200 crypto exchange apps at monthly frequency over August 2015 – June 2022. To select the sample of apps, we take the list of crypto exchanges from the CryptoCompare "All Exchanges General Info" application programming interface (API) endpoint. We find a match with the Sensor Tower database for 187 of these exchanges (out of 296). We complement this selection with a list of 26 apps identified as crypto exchange apps by Sensor Tower directly.

Sensor Tower gauges unique downloads per iOS or Google Play account. This methodology avoids double-counting due to re-downloads, ie if a user installs, deletes, then reinstalls the same app on the same device or a new device from the same iOS or Google Play account. Active users are defined as any user that has at least one session on an app over a specific time period (eg day, week or month). If a user has more than one session over the selected time period, they will still only count as one active user for that time period. The active user metric is estimated by Sensor Tower based on a representative sample of users. Bearing this caveat in mind, these data offer the unique possibility of measuring real user-adoption directly rather than through a proxy.

Data on Bitcoin prices are obtained from CryptoCompare, a leading source of data on cryptocurrency prices.[7] In addition to the price and volume data, CryptoCompare, in collaboration with IntoTheBlock, collects statistics on the distribution of Bitcoin holdings at daily frequency. This dataset provides both the number of addresses and the total volume, broken down by various buckets ranging from balances smaller than 0.001 up to more than 100,000 Bitcoin.

We further collect data on stock market prices (MSCI indices), volumes and turnover (Datastream indices), consumer price index (CPI) inflation and foreign exchange (FX) volatility for the country in which the app is downloaded. We also use global gold prices and economic policy uncertainty, as measured by the Global Economic Policy Uncertainty (GEPU) Index of Baker et al (2016). In addition, we collect information on commercial bank branches per 100,000 adults, regulatory quality, total

[6] Of course, it is possible that the phone operating system captures other user characteristics – such as a preference for a more competitive ecosystem of app developers relative to Apple's iOS. In the absence of income data, we do not attempt to distinguish between these possible explanations.

[7] While Bitcoin and other cryptocurrency markets are in principle borderless, there can be differences in the prices quoted on exchanges in different countries, eg due to regulation. See Auer and Claessens (2018). These price differences are generally small. As such, we use global price indicators.

population, and real GDP at the country-year level.[8] Data on payment app active users and downloads come from Cornelli et al (forthcoming). In this paper the authors collect the top 25 finance apps in each of the countries covered by Sensor Tower and manually tag those apps which are used mainly for payments. For instance, a stock trading app would not be classified as a payment app, while an app like Venmo would be classified as a payment app.

Our final panel includes 95 countries at monthly frequency over the period August 2015 – June 2022. Table 1 provides descriptive statistics for our main variables.

Descriptive statistics — Table 1

	No observations	Mean	Standard deviation	Min	Max
Ln(monthly average daily active users)	6,677	9.01	2.58	–1.13	15.99
Ln(monthly average downloads)	7,170	5.71	2.35	–3.43	12.86
Ln(Bitcoin price)	7,242	8.70	1.60	5.47	11.04
Ln(MSCI equity index price)[1]	5,406	7.38	3.07	–6.21	26.70
Ln(stock market turnover)[2,]	4,775	14.51	3.59	5.34	23.79
Ln(gold price)	7,242	7.29	0.18	6.98	7.60
Ln(global economic policy uncertainty index)	7,147	5.35	0.31	4.62	6.06
FX standard deviation	6,806	1.56	95.19	0	7,852.95
CPI, yoy change	6,996	318	8,076	–100	344,510
Ln(commercial bank branches per 100k adults)	6,903	2.63	0.85	–0.89	4.34
Regulatory quality[3]	7,152	0.50	0.93	–2.36	2.26
Control of corruption[3]	7,152	0.35	1.04	–1.56	2.28
Ln(payment apps active users)	6,954	12.82	2.65	3.00	19.64
Ln(payment apps downloads)	7,240	10.99	2.38	0	17.37
Ln(population)[4]	7,159	16.69	1.67	11.06	21.07
Ln(real GDP)	6,482	26.20	1.58	22.14	30.64

[1] Country-specific MSCI equity index price, in local currency. [2] Based on the country specific Datastream equity index, in local currency. [3] In units of a standard normal distribution. [4] .Data for the most recent period has been estimated with the latest value available.

Sources: Baker et al (2016); CryptoCompare; Datastream; World Bank; Refinitiv Eikon; Sensor Tower; national data; authors' calculations.

Stylised facts

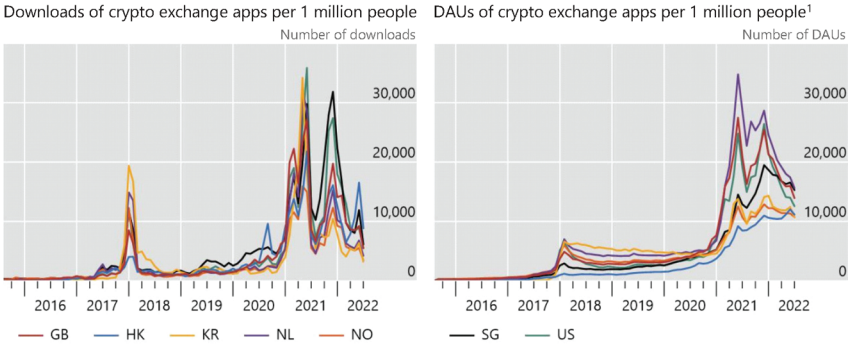
Between August 2015 and its peak in November 2021, the price of Bitcoin rose from $250 to $69,000. Meanwhile, the monthly average number of daily active users (DAUs) has increased from around 119,000 to more than 32.5 million. During the rapid price increases in late 2017 and early 2021, alone, around 105 and 511 million new monthly active app users joined. In mid-2022, there were around 700 million instances of

[8] Gold and stock market prices come from Refinitiv Eikon; volumes and turnover come from Datastream; consumer prices indices and FX data come from national sources and Datastream; commercial bank branches per 100,000 adults, regulatory quality, total population, and real GDP come from the World Bank.

monthly active use in our global sample, and a cumulative total of 565 million crypto exchange app downloads over the full sample period.[9]

Some countries registered monthly downloads of crypto exchange apps exceeding 15,000 per 100,000 inhabitants with a peak of more than 35,000 (Graph 1, left-hand panel). Daily active users of these apps exceeded 10,000 per 100,000 inhabitants with a peak of about 35,000 (right-hand panel). The group of top downloading jurisdictions comprised both advanced economies such as the United States, Canada, Australia, the United Kingdom, the Netherlands, Ireland and New Zealand as well as emerging market and developing economies (EMDEs) such as the United Arab Emirates, Hong Kong SAR, Korea, Singapore, El Salvador and Turkey.

The evolution of the adoption of crypto exchange apps — Graph 1



[1] Monthly average number of daily active users.

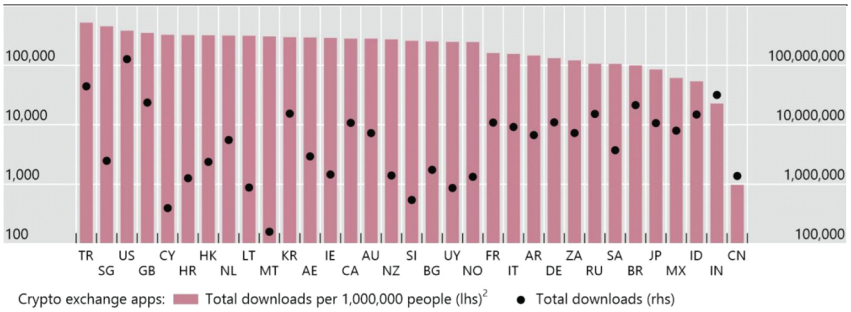
Sources: Sensor Tower; World Bank; authors' calculations.

Over the period of analysis, crypto exchange app adoption, measured with the number of total downloads per 1,000,000 people, is highest in Turkey, Singapore, the United States and the United Kingdom (Graph 2 and 3). It is lowest in China and in India, where legal restrictions likely prevent greater retail adoption.

[9] This number is higher than the global estimates from Blandin et al (2021) and de Best (2022). This likely relates to the same users having multiple crypto exchange apps.

Crypto app adoption is highest in Turkey, Singapore, the US and UK

Number of downloads, logarithmic scale[1] Graph 2



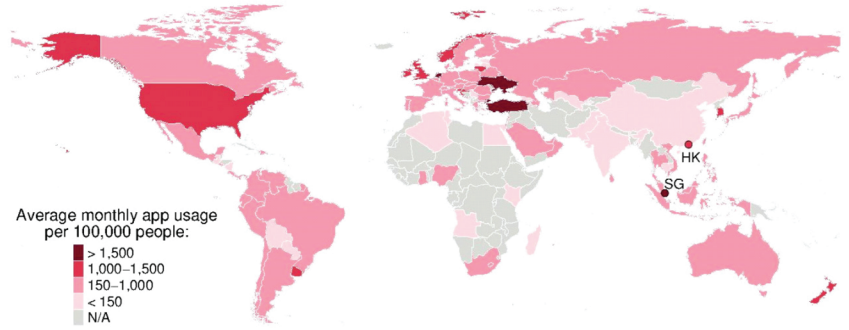
AE = United Arab Emirates, AR = Argentina, AU = Australia, BG = Bulgaria, BR = Brazil, CA = Canada, CN = China, CY = Cyprus, DE = Germany, FR = France, GB = United Kingdom, HK = Hong Kong SAR, HR = Croatia, ID = Indonesia, IE = Ireland, IN = India, IT = Italy, JP = Japan, KR = Korea, LT = Lithuania, MT = Malta, MX = Mexico, NL = Netherlands, NO = Norway, NZ = New Zealand, RU = Russia, SA = Saudi Arabia, SG = Singapore, SI = Slovenia, TR = Turkey, US = United States, UY = Uruguay and ZA = South Africa"

[1] Total downloads are calculated for the period Aug 2015–Jun 2022. [2] Ratio of the total number of downloads to the population for 2020, or latest available.

Sources: World Bank; Sensor Tower; authors' calculations.

World map of crypto trading app adoption

Graph 3



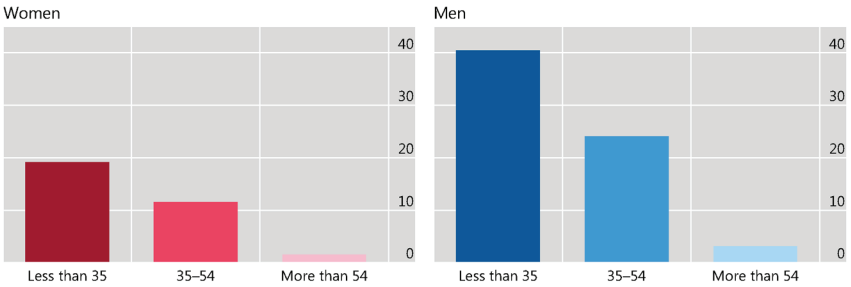
The use of this map does not constitute, and should not be construed as constituting, an expression of a position by the BIS regarding the legal status of, or sovereignty of any territory or its authorities, to the delimitation of international frontiers and boundaries and/or to the name and designation of any territory, city or area. Based on data for June 2022.

Sources: World Bank; Sensor Tower; authors' calculations.

The largest group of users by far – nearly 40% – were men under the age of 35.[10] Men between 35 and 54 made up a further 25% on average. Less than 35% of all users globally are female (Graph 4), and the majority of female crypto app users are under 35. This pattern is consistent with the findings of surveys on cryptocurrency and fintech use; here, too, men are overrepresented (Auer and Tercero-Lucas (2022); Chen et al (2021)).[11]

All the young dudes? More than 40% of crypto app users are young men

In per cent — Graph 4



Based on active users of 45 crypto exchanges android and iOS apps. Simple averages for the period Q1 2020–Q2 2022.

Sources: Sensor Tower; authors' calculations.

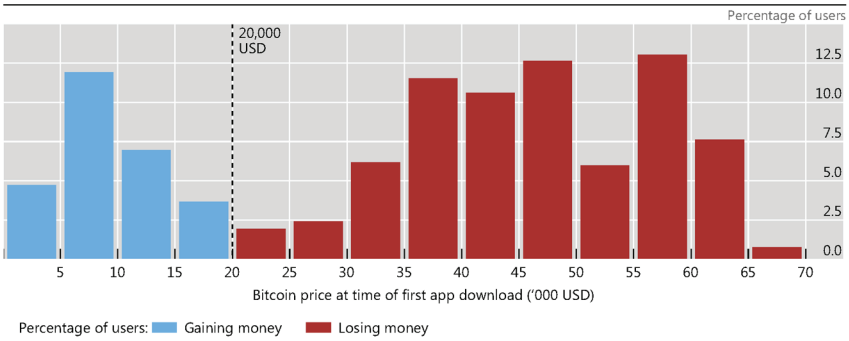
While our database does not contain information on the actual performance of the crypto currency investments of individuals, we can perform simulations to obtain an estimate. First, we estimate the distribution of the number of users downloading the crypto exchange apps for different Bitcoin prices. We find that 73% of the users downloaded their app when the price of Bitcoin was above $20,000 – above the price of Bitcoin in October 2022 (Graph 5). If these users invested in Bitcoin on the same day they downloaded a crypto exchange app, they would have incurred a loss on this initial investment.

[10] This compares to 26% of the general population in the countries in our sample – of which 15% are below the age of 19.

[11] This finding also mirrors that of Bohr and Bashir (2014), Stix (2019) and Fujiki (2020).

Most retail investors downloaded crypto apps when prices were high

Almost three-quarters of users downloaded the app when Bitcoin was higher than $20,000 Graph 5



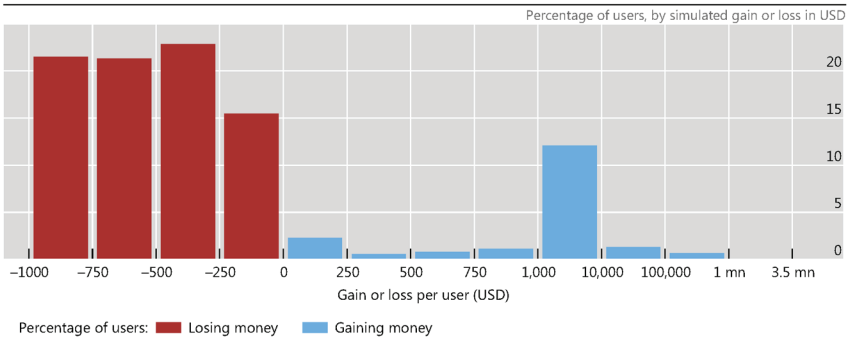
The graph shows a histogram of the share of daily downloads of crypto-exchange apps by Bitcoin price at the time of first download. Estimations of losses or gains assume that the users purchased bitcoin on the same daily they downloaded the crypto-exchange app.

Sources: CryptoCompare; Sensor Tower; authors' calculations.

Second, assuming that each new user bought $100 of Bitcoin in the month of the first app download and in each subsequent month, 81% of users would have lost money (Graph 6). The median investor would have lost $431, corresponding to 48% of their total $900 in funds invested.

Only few investors made large gains, while the majority likely lost money

Assuming an investment of $100 per month, 81% of users have lost money Graph 6

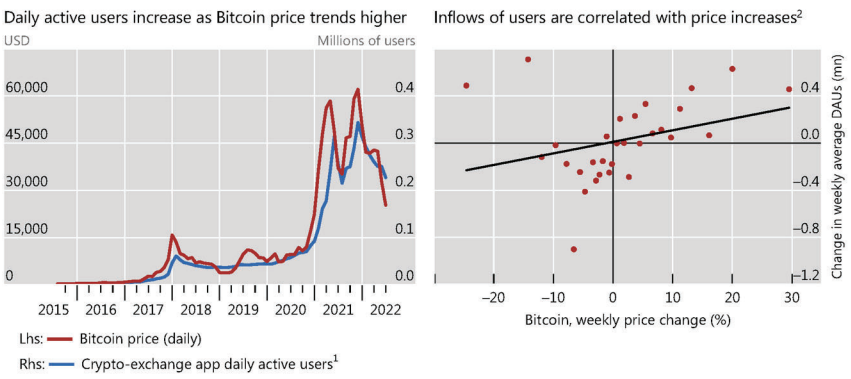


Sources: CryptoCompare; Sensor Tower; authors' calculations.

3. Empirical analysis

Bitcoin prices and user numbers have moved in lockstep, with a correlation coefficient of more than 0.9 (Graph 7, left-hand panel). A scatterplot shows that weekly changes in users are correlated with weekly changes in Bitcoin prices (right-hand panel), but the relationship is not fully contemporaneous. Indeed, rises in user numbers have lagged rises in prices by an average of about two months.[12] This lagged relationship could suggest that users enter the system attracted by high prices and in the expectation that prices continue to rise.

Chained to speculation? New users enter as the Bitcoin price rises — Graph 7



[1] Cross-country monthly average of daily active users. Calculated on a sample of more than 200 crypto-exchange apps over 95 countries. [2] The graph shows a binned scatterplot.

Sources: CryptoCompare; Sensor Tower; authors' calculations.

To investigate the relationship between the Bitcoin price and new users in more detail, we estimate variants of the following regression:

$$DAUs_{i,t} = \beta * BTC_t + \gamma * X_{i,t} + \theta_i + \varepsilon_{i,t}$$

The dependent variable (daily active users or *DAUs*) is obtained summing the daily numbers of daily active users of these apps at the country level and then taking a monthly average. The result is the monthly average number of daily active users in jurisdiction *i* for month *t*. Our main independent variable is the maximum Bitcoin price in month *t*, which likely attracts the greatest attention of the investors. We include a set of macro-economic control variables discussed in more detail below. Further, in each specification we include country fixed effects.

Table 2 shows that an increase in the Bitcoin price is associated with a significant increase in the number of new users. On average, a one-percentage point increase in the Bitcoin price is associated with an increase in the monthly average number of daily active users by 1.1% (column 1), significant at the 99% level. This finding does

[12] Similar price dynamics can be observed for the price of Ether and new users on the Ethereum blockchain (Boissay et al (2022)).

not appear to be driven by other financial market or country-specific conditions, as shown in columns (2)-(5). When controlling for stock market returns (column 2), turnover (column 3), the global gold price (column 4), or economic policy uncertainty, FX volatility and CPI inflation (column 5), the coefficient on the Bitcoin price remains highly significant and large in magnitude. In our most stringent specification in column (5), a one-percentage point increase in the Bitcoin price is associated with an increase in new users by 0.9%. These findings suggest that the relation between the entry of the monthly average number of daily active users and the Bitcoin price is not driven by other observable macro-factors.[13]

Crypto adoption rises following increases in the global Bitcoin price — Table 2

	Dependent variable: ln(monthly average daily active users)				
	(I)	(II)	(III)	(IV)	(V)
Ln(Bitcoin price)	1.109***	1.075***	1.036***	0.946***	0.912***
	(0.008)	(0.008)	(0.009)	(0.013)	(0.012)
Ln(MSCI equity index price)[1]		–0.095***	–0.430***	–0.271***	0.058
		(0.022)	(0.076)	(0.077)	(0.077)
Stock market turnover[2,]			0.304***	0.249***	0.185***
			(0.031)	(0.032)	(0.032)
Gold price				0.967***	0.326***
				(0.085)	(0.092)
Global economic policy					0.556***
uncertainty index[2]					(0.041)
FX standard deviation					–0.041
					(0.028)
CPI, yoy change					0.037***
					(0.003)
Number of observations	6677	5260	4701	4701	4516
R-squared	0.903	0.907	0.902	0.904	0.914

Robust standard errors in brackets; ***/**/* indicates statistical significance at the 1/5/10% level. Regressions include country fixed effects.

[1] Country specific MSCI equity index price, in local currency. [2] Based on the country specific Datastream equity index, in local currency.

Sources: Baker et al (2016); World Bank; CryptoCompare; Datastream; Refinitiv Eikon; Sensor Tower; national data; authors' calculations.

Differences by user and country characteristics

Previous literature has established differences in risk tolerance across groups. For example, data from the Survey of Consumer Expectations (SCE) for the United States shows that younger men are more willing to take financial risks than both women

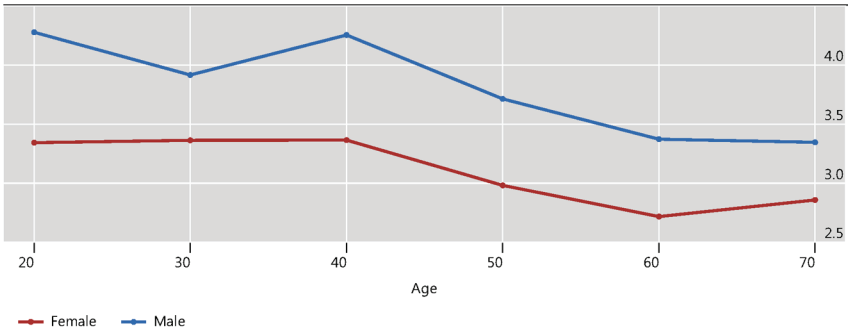
[13] We additionally control for the *network factors* identified in Y Liu and A Tsyvinski (2021), namely number of wallets, number of active addresses, number of transactions, number of payments, and the first principal component of these four measures. Overall, our results are robust after controlling for these network factors. We do not report this evidence for conciseness.

and older male respondents (Graph 8). Similar findings have been reported in other contexts (see, for example, Borghans et al, 2009; Arano et al, 2010).[14]

Investigating to what extent the relationship between price development and new users differs across demographic groups could hence offer additional insights. If, for example, risk-seeking segments of the population (ie young men) respond the most to a rising Bitcoin price, this would be consistent with a speculative motive, rather than the search for a safe asset.

Willingness to take financial risks for US consumers of age 20–79

Index, 1 (lowest willingness)–7 (highest willingness) Graph 8



Willingness to take financial risks for US consumers of age 20–79. Weighted average (by survey weights) across respondents. The sample covers the period January 2020–July 2021.

Sources: Federal Reserve Bank of New York, *Survey of consumer expectations*; authors' calculations.

To test these arguments, we estimate regressions similar to regression (1), but using the number of new users among different population subgroups as dependent variable.

Table 3 shows that young men have a much higher sensitivity to Bitcoin prices than older men or women of any age. The coefficient on the Bitcoin price is twice as large for young men (column 1) compared to older men (column 2), and more than four times as large relative to women of age 35 and above, which are the least-responsive group. The relationship remains significant at the 99% level for all population groups. These findings suggest that rising prices attract speculative users with a high tolerance for risk. Consistent with this interpretation, recent survey evidence from the UK finds that one of the main reasons for buying cryptocurrencies is "as a gamble that could make or lose money" (FCA (2021)). Further analysis (see Graph A1 in the appendix) confirms that the stronger reaction of young male users occurs mostly during periods of pronounced price swings.

[14] A substantial body of work argues that women tend to be more risk-averse than men (Jianakoplos and Bernasek, 1998). Also on the technology side, there are also significant differences in the use of fintech by gender (Chen et al, 2021).

Risk aversion: young vs old, male vs female, iOS vs Android users Table 3

	Monthly average number of users[1]					
	Male below 35	Male above 35	Female below 35	Female above 35	iOS	Android
	(I)	(II)	(III)	(IV)	(V)	(VI)
Bitcoin price	2.142***	1.436***	1.004***	0.683***	1.789***	3.475***
	(0.137)	(0.091)	(0.062)	(0.042)	(0.109)	(0.223)
Number of observations	83	83	83	83	83	83
R-squared	0.903	0.906	0.905	0.906	0.912	0.896

Robust standard errors in brackets; ***/**/* indicates statistical significance at the 1/5/10% level.

[1] Simple average of the country-level monthly average of DAUs by age and gender. Based on active users of 45 crypto exchanges android and iOS apps.

Sources: CryptoCompare; Sensor Tower; authors' calculations.

While we cannot observe user income directly, we can exploit information on the operating system, as Android users on average tend to be of lower income than Apple iOS users (Berg et al (2020)). Columns 5 and 6 in Table 3 show that sensitivity among users with an Android device is about twice as high as for users with an iOS device, suggesting that lower-income investors are more likely to start using crypto exchange apps after prices have risen.[15]

Beyond user characteristics, different arguments have been put forth for why people might want to hold Bitcoin. For example, they may do so because of distrust of domestic institutions or the domestic fiat currency. In light of weak property rights, others may also see cryptocurrencies as a store of value and safe haven (ie "digital gold") that cannot be appropriated by public authorities. Alternatively, they may want to use cryptocurrencies for real transactions (purchases) or cross-border money transfers instead of transfers in fiat currency, particularly in countries with under-developed financial systems.

Table 4 investigates to what extent such country characteristics matter in amplifying or mitigating the relationship between the Bitcoin price and user entry. Column (1) shows that the relationship is stronger in countries with more bank branches, ie in countries with a better-developed traditional financial system. This could reflect the fact that investors need a bank account to transfer fiat money into a crypto exchange. Columns (2) and (3) show that in countries where more users use non-crypto digital payments apps, the relationship between the Bitcoin price and new users is more pronounced. The latter result stands at odds with interpretations based on cryptocurrency as a substitute for transactions and payments in fiat currency. Columns (4) and (5) show that higher regulatory quality and control of corruption mitigate the positive effect of the price on users – consistent with incentives to adopt Bitcoin in countries with weaker public institutions.

[15] The results by gender, age and operating system remain near-identical when we use app-level data and we control for unobservable variation across countries with or without app fixed effects (see Table A1 in the appendix).

Crypto adoption and institutional characteristics — Table 4

	Dependent variable: ln(monthly average daily active users)				
	(I)	(II)	(III)	(IV)	(V)
Ln(bitcoin price)	0.854***	0.168***	0.392***	1.046***	1.002***
	(0.028)	(0.042)	(0.034)	(0.015)	(0.014)
Ln(No commercial bank branches per 100k adults)*ln(bitcoin price)	0.037***				
	(0.009)				
Ln(payment apps active users) *ln(bitcoin price)		0.046***			
		(0.002)			
Ln(payment apps downloads) *ln(bitcoin price)			0.038***		
			(0.002)		
Regulatory quality*ln(bitcoin price)				–0.137***	
				(0.009)	
Control of corruption* ln(bitcoin price)					–0.107***
					(0.007)
Number of observations	4481	4645	4645	4645	4645
R-squared	0.905	0.918	0.916	0.914	0.914

Robust standard errors in brackets; ***/**/* indicates statistical significance at the 1/5/10% level. Regressions include country fixed effects. Other controls include the natural logarithm of the MSCI equity index price, the stock market turnover, the gold price and the global economic policy uncertainty index.

Sources: Baker et al (2016); CryptoCompare; World Bank; Datastream; Refinitiv Eikon; Sensor Tower; national data; authors' calculations.

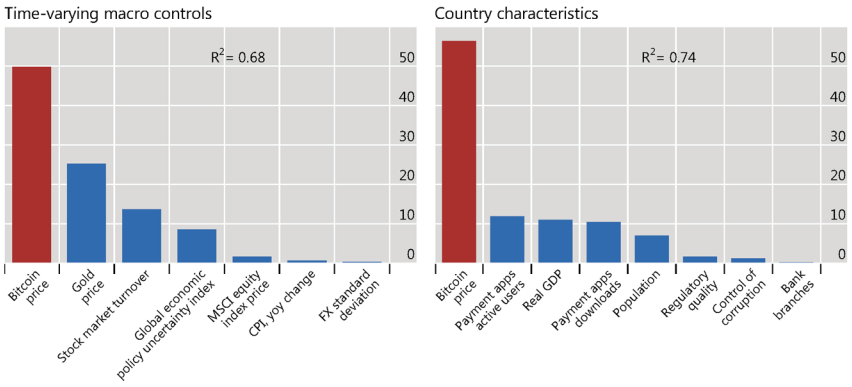
Taken together, results in Tables 2 and 4 suggest that the Bitcoin price has a positive and highly significant association with the entry of new users, even when controlling for other time-varying macro-economic factors or country characteristics. Another way to contrast the relative importance of these different factors is to show how much of the variation in the entry of new users (measured with the R-squared) they can explain.

To this end, Graph 9 plots the results from a Shapley decomposition of the R-squared when we regress the number of new users on the Bitcoin price and time-varying macro controls (panel a) or country characteristics (panel b). As shown in panel (a), the Bitcoin price explains almost 50% of the overall variation in entry of new users, followed by the price of gold with 25%. All other time-varying factors explain less than 15%. Panel (b) shows that these patterns are even more pronounced among country controls. While the price of Bitcoin explains over 55% of the total variation, country characteristics (eg total population, real GDP, the use of payments apps, or institutional quality) explain less than 15% each. These findings suggest that the association between the price of Bitcoin and new users is not only highly significant, but that the price also explains the lion's share of the overall variation in entry of new users across countries and time.

Shapley decompositions

In per cent

Graph 9



The graph shows the shapley decomposition of the R^2 resulting from a regression of the natural logarithm of the monthly average number of daily active users of the crypto apps on the variables indicated on the x-axis of the panels. To all the variables, with the exception of the FX standard deviation and the CPI, is applied the natural logarithm.

Sources: Baker et al (2016); World Bank; CryptoCompare; Datastream; Refinitiv Eikon; Sensor Tower; national data; authors' calculations.

4. Exploiting exogenous variation in the price of Bitcoin

While our analysis so far suggests that new users are attracted by rising prices, the relationship between Bitcoin prices and the influx of new users could also operate in the other direction. As new users download apps and use their fiat money to buy Bitcoin, they drive up the price of Bitcoin. While the patterns in Graph 1 suggest that user inflows tend to follow price increases with a lag of around two periods, in what follows, we perform two complementary analyses to address the issue of reverse causality. First, we focus on episodes of arguably exogenous changes to the price of Bitcoin. And second, we estimate a panel vector autoregression (PVAR) model.

Natural experiments

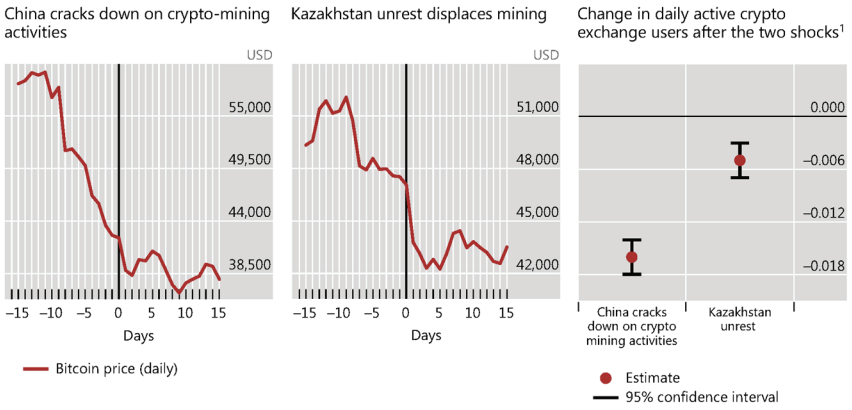
In what follows we exploit two episodes that led to changes in the price of Bitcoin that were not driven by user adoption: the crackdown of Chinese authorities on crypto-mining activities and the social unrest in Kazakhstan.

In May 2021, the Chinese government announced that it was vowing to crack down on Bitcoin mining and trading in China. Since Chinese miners had been responsible for up to three-quarters of all mining at their peak in September 2019, this policy move had a large and swift effect on Bitcoin mining capacity. As lower mining capacity implies higher transaction costs due to higher fees, the crackdown

had a strong effect on the price of Bitcoin – which fell by 39% between eleven days before and nine days after the announcement.[16]

Bitcoin mining equipment was subsequently exported from China and miners eventually set up shop in other countries with cheap and abundant energy supplies, driving a price recovery. One such location was neighbouring Kazakhstan, which had large, vacant warehouses and factories well-suited to house mining operations, and cheap energy from coal (70% of electricity production) and natural gas. This leads to our second event window, when in January 2022 rising fuel prices and deadly riots led to an abrupt reduction in Bitcoin mining in Kazakhstan, once again pushing the Bitcoin price lower – this time by almost 20% between late December and early January.

Case study: impact of exogenous shocks to Bitcoin prices on user numbers — Graph 10



[1] Results from a univariate regression of the daily changes in the natural logarithm of the number of daily active users on a dummy that takes a value of 1 from the day after the event onwards and 0 elsewhere. Regressions include country fixed effects and standard errors clustered at country level.

Sources: CryptoCompare; Sensor Tower; authors' calculations.

Graph 10 (left and centre panels) illustrates these price movements. During both episodes, structural changes arguably affected the global price of Bitcoin, independently of the entry of new users in *other* countries. To strengthen identification, we focus on the adoption of Bitcoin by users outside of China and Kazakhstan in each respective episode. Additionally, one could reasonably think that a drop in mining capacity as large as the ones that happened in the two episodes under analysis could have repercussions on users based outside of China and Kazakhstan too – eg in the form of longer transaction processing times. However, this would affect predominantly on-chain transactions. Instead, our measure of adoption is based on monthly active usage of crypto-exchange apps, and hence captures off-chain adoption. Most of the volume on crypto-exchanges is accounted for by off-

[16] See CNBC: Bitcoin (BTC) price drops on China crypto mining crackdown.

chain transactions which, in turn, would not be affected by such a structural change in a third country.

In Graph 10, right-hand panel we investigate how the change in the Bitcoin price around the two event windows – in June 2021 and in January 2022 – affected the entry of new users. To this end, we estimate variants of regression equation (1) at daily frequency, but limit the sample period to the 15 days around the event window (6 May 2021 for China, 5 January 2022 for Kazakhstan). Importantly, we exclude the country that is responsible for the shock (ie China and Kazakhstan) in each respective exercise from the sample.

Results show that the inflow of new users slows markedly following both events. In June 2021, a 39% drop in the Bitcoin price reduced the inflow of new users by 30%. In January 2022, a price drop of 19% slowed the inflow of new users by 15%. Estimated coefficients are significant at the 1% level. These patterns suggest that the positive relationship between prices and users allows for a causal interpretation.

Panel vector autoregression analysis

To provide additional evidence on the link between crypto trading and bitcoin prices, we develop a simple panel vector autoregression (PVAR) analysis on monthly data for 57 countries over the period October 2015 – April 2022. The interaction between Bitcoin prices, financial markets and crypto exchange users is analysed by means of the following variables: (i) Bitcoin price (bitcoin); (ii) monthly average of crypto exchange app DAUs (users); (iii) country-level equity market price (pk), (iv) equity market turnover (turnover) and (v) the global policy uncertainty index (uncertainty).

To overcome spurious correlation, we express all variables in first differences of logs. We model a five-variable vector autoregression (VAR) system; all the variables that are found to be I(0), are treated as endogenous.[17] Therefore the starting point of the multivariate analysis is:

$$z_t = \mu + \sum_{k=1}^{p} \Phi_k z_{t-k} + \varepsilon_t \qquad t = 1, \dots, T$$
$$\varepsilon_t \sim \mathrm{VWN}(0, \Sigma)$$

where $z_t = [uncertainty, turnover, pk, users, bitcoin]$ and ε_t is a vector of residuals, for i = 1, ..., N, where N is the number of countries and time is denoted by t. The deterministic part of the model includes a constant, while the number of lags (p) has been set equal to 1 according to the Andrews and Lu (2001) criteria.[18]

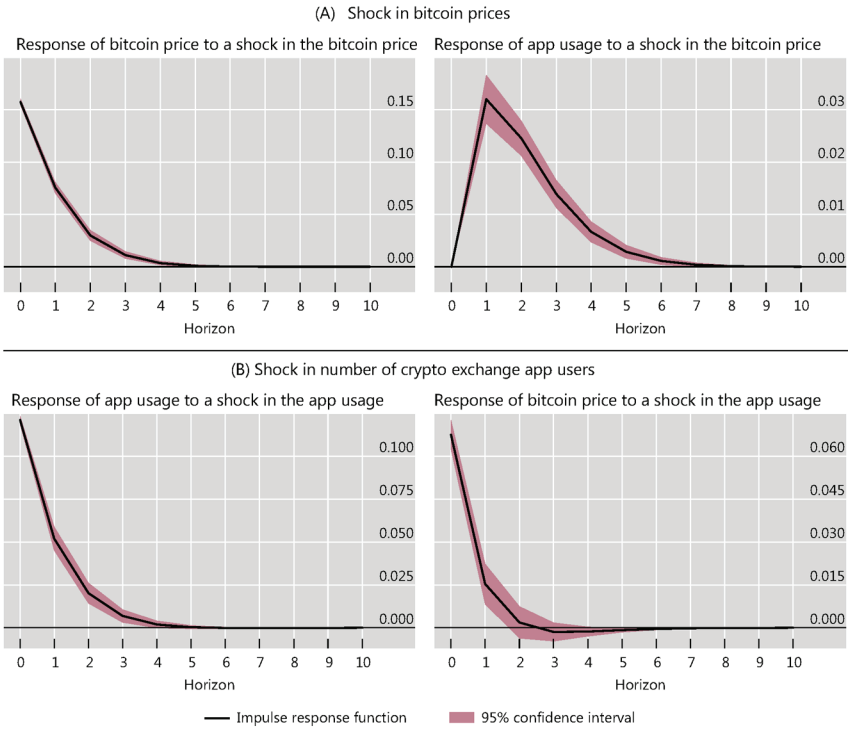
Graph 11 shows the dynamic responses to exogenous shock to the Bitcoin price (panel A) and to the number of crypto exchange app user (panel B). We use a standard

[17] Unit root Phillips–Perron tests for all variables show that the null hypothesis that variables contain unit roots is always rejected. The results for the unit root Phillips–Perron tests for all variables in first differences are shown in Table A2 in the Appendix. Figure A1 in the appendix shows that our PVAR is stable because all the moduli of the companion matrix are smaller than one and the roots of the companion matrix are all inside the unit circle.

[18] The choice of the deterministic component (constant versus trend) has been verified by testing the joint hypothesis of both the rank order and the deterministic component (so-called Pantula principle). The number of lags (p) has been set equal to 1 based on model-selection criteria by Andrews and Lu (2001).

Cholesky decomposition and order the Bitcoin price as the last variable.[19] This implies that the Bitcoin price reacts contemporaneously to all variables included in the PVAR. At the same time, we consider the app users as second last variable in the Cholesky decomposition, implying that they react contemporaneously to all variables except the Bitcoin price. The complete ordering of the variables is reported in vector z_t.

Impulse response functions to Bitcoin price and number of crypto exchange users — Graph 11



The graphs show the impulse response functions for a shock in the monthly change in bitcoin price (top panels) or in the monthly number of crypto exchange apps active users (bottom panels). The other variables included in the PVAR model are the monthly changes in the country-level equity market price, equity market turnover and the global policy uncertainty index.

Sources: CryptoCompare; Sensor Tower; authors' calculations.

[19] Because the ordering of the variable is likely to affect orthogonalised impulse response functions (IRFs) and the interpretation of the results, we follow the theory and order the variable of interest last so they reacts to all variables within one month. This choice is in line with the PVAR literature that analyses the effectiveness of monetary policy shocks using VAR models. Confidence intervals are calculated using Monte Carlo simulation with p-value bands of 90%. The results do not change when altering the order of the variables in the Cholesky decomposition.

The results in panel A suggest that the number of app users respond strongly to a Bitcoin price shock. In case of a 15-percentage point increase in Bitcoin prices (corresponding to a one standard deviation shock), the number of crypto exchange app users increases by 3 percentage points on impact and continues to significantly increase for seven months after the shock.

A similar effect is detected in case of an exogenous shock to the number of users of the crypto exchange. A 12-percentage point increase in the number of crypto exchange app users (corresponding to one standard deviation shock) raises the Bitcoin price immediately by 6 percentage points. The effect continues to be significant for one month with a further 1.5 percentage point increase in the Bitcoin price. It vanishes after two months.

Similar results are obtained when using formal Granger tests (see Table A3 in the appendix). We find strong evidence (at the 99% confidence level) that Bitcoin price changes Granger-cause an increase in new crypto exchange app users, and vice versa.

Bitcoin distributional data[1] Table 7

	Holding size			
Percent change in	Small	Medium	Whale	Humpback
	(I)	(II)	(III)	(IV)
Bitcoin price	0.006***	0.002***	–0.000	–0.024***
	(0.002)	(0.001)	(0.001)	(0.008)
Global economic policy	0.006	0.003	0.000	–0.017
uncertainty index[2]	(0.004)	(0.003)	(0.004)	(0.019)
Gold price	–0.014	0.008*	–0.012*	–0.017
	(0.011)	(0.005)	(0.007)	(0.036)
CBOE VIX index	–0.001	–0.000	0.000	–0.000
	(0.001)	(0.000)	(0.001)	(0.005)
Number of observations	3784	3784	3784	3782
R-squared	0.005	0.004	0.001	0.004

t-statistic calculated with robust standard errors in brackets; ***/**/* indicates statistical significance at the 1/5/10% level.

[1] All the variables correspond to the percent change in the specific variable. The dependent variable corresponds to the number of BTC held in addresses with balance less than 1 BTC (small), 1–1000 BTC (medium), 1000–100,000 BTC (whale) and more than 100,000 BTC (humpback). Winsorised at the 1.5th and 98.5th percentiles. [2] Standardised to a mean of zero and a standard deviation of one.

Sources: Baker et al (2016); CryptoCompare; Datastream; authors' calculations.

Behaviour by larger vs smaller investors

The supply of Bitcoin is fixed by protocol, with a maximum global supply of 21 million.[20] This raises the question: if retail investors tend to enter the market when prices rise, who is exiting, ie selling their Bitocins? Complementary data from the Bitcoin blockchain allow us to assess changes in holdings based on the total holdings of the wallet. We can assess small and medium Bitcoin holders (those with less than 1 and

[20] As the network nears this threshold, block rewards are periodically reduced by half – or "halving". It has been argued that as block rewards approach zero, payments security will decrease (Auer (2019)).

between 1 and 1000 Bitcoin, respectively), and compare these with so-called "whales", and the even larger "humpbacks", who own wallets in excess of 100,000 Bitcoin.

Table 7 shows that in periods of price increases, small Bitcoin holdings tend to increase, while especially the largest Bitcoin holders – the humpbacks – tend to sell. This, again, is consistent with a market sustained by new entrants, allowing early investors and insiders to cash out at their expense.[21]

5. Conclusion

Our analysis has shown that, around the world, Bitcoin price increases have been tied to greater entry by retail investors. In particular, with data over 2015–22, we show that users are more likely to make active use of crypto exchange apps in months after a rise in the price of Bitcoin. This is particularly true for young men, who tend to have a higher risk tolerance than women and older users. They are also higher for users with an Android device, who tend to have lower incomes than iOS users. These findings hold when controlling for a range of global and country-specific factors. They are stronger in countries with higher bank branch density or adoption of digital payments, and weaker regulatory quality. An analysis of two unanticipated shocks that led to a fall in the price of Bitcoin, in May 2021 and January 2022, suggests that the relationship can be interpreted as causal. Further, in a panel VAR, price increases Granger-cause new entry, but new entry does not Granger-cause price increases.

Our findings shed light on the motivation for retail investors to enter crypto markets. They support the notion that, by and large, investors view cryptocurrencies as a speculative investment (a "gamble") rather than a means of payment for real economic transactions. They also raise concerns around consumer protection: if users are driven primarily by backward-looking price movements, are they fully prepared for the potential consequences of a price correction? Our estimations that 73-81% of global investors have likely lost money on their crypto investment, and that larger investors ("humpbacks") have tended to sell when smaller investors are buying, may give grounds for deeper investigation of claims that crypto will "democratise" the financial system.

Without attempting to predict future market developments, our study does raise questions about the implications of greater crypto adoption for the economy and consumer welfare. As recent developments have shown, if interest rates rise and global risk appetite suddenly wanes, the overall market could dry up. If, following price declines, retail investors make losses and exit the market, there is the potential for self-reinforcing dynamics. For authorities tasked with consumer protection and financial stability, a deeper understanding of these scenarios and the associated knock-on effects would be constructive.

[21] This is one channel by which crypto trading may redistribute wealth to insiders, along with broader rents in the crypto and decentralised finance sector (Makarov and Schoar (2022)).

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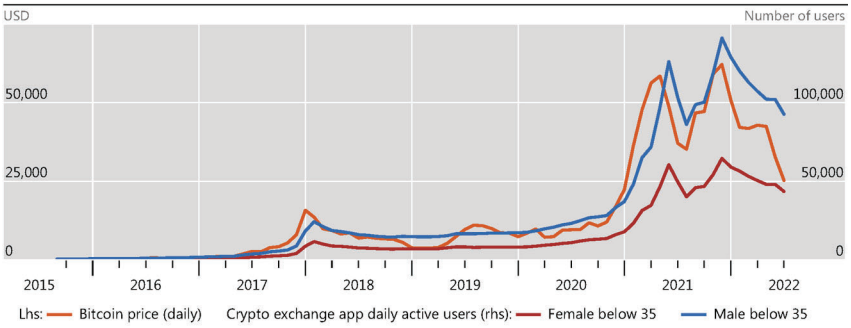
Appendix

Young male users enter mostly during periods of pronounced price swings — Graph A1



Simple average of the country-level monthly average of DAUs by age and gender. Based on active users of 45 crypto exchanges android and iOS apps.

Sources: CryptoCompare; Sensor Tower; authors' calculations.

App-level regressions: young vs old, male vs female, iOS vs Android users — Table A1

	Monthly average of daily active users: without app fixed effects					
	Male below 35	Male above 35	Female below 35	Female above 35	iOS	Android
	(I)	(II)	(III)	(IV)	(V)	(VI)
Bitcoin price	6.139***	2.244***	2.463***	0.816***	0.019**	0.074***
	(1.045)	(0.566)	(0.521)	(0.306)	(0.008)	(0.012)
App fixed effects	N	N	N	N	N	N
Number of observations	2594	2594	2594	2594	2594	2570
R-squared	0.014	0.005	0.007	0.002	0.001	0.019

	Monthly average of daily active users: with app fixed effects					
	Male below 35	Male above 35	Female below 35	Female above 35	iOS	Android
	(I)	(II)	(III)	(IV)	(V)	(VI)
Bitcoin price	6.501***	2.537***	2.594***	0.968***	0.028***	0.074***
	(0.878)	(0.509)	(0.464)	(0.290)	(0.008)	(0.009)
App fixed effects	Y	Y	Y	Y	Y	Y
Number of observations	2594	2594	2594	2594	2594	2570
R-squared	0.458	0.471	0.462	0.468	0.472	0.472

Robust standard errors in brackets; ***/**/* indicates statistical significance at the 1/5/10% level.

Sources: CryptoCompare; Sensor Tower; authors' calculations.

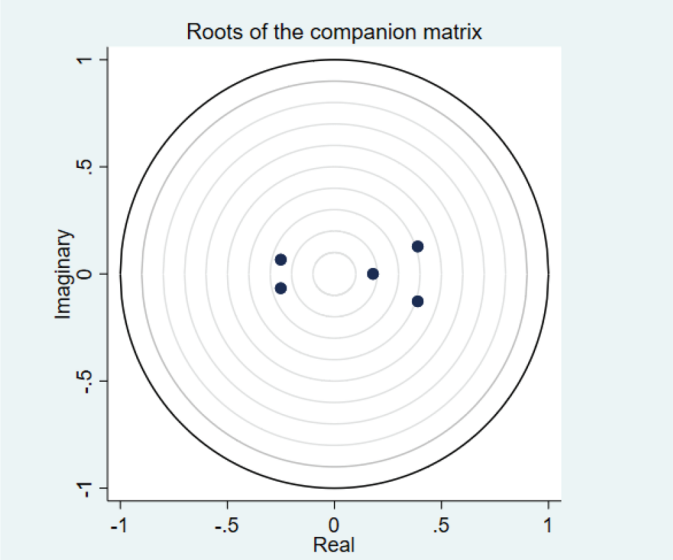
Unit root tests[1] Table A2

	Δ Ln(monthly average daily active users)		Δ Ln(bitcoin price)		Δ Ln(MSCI equity index price)[2]		Δ Ln(stock market turnover)[3]		Δ Ln(global economic policy uncertainty index)	
	Stat	P-value	Stat	P-value	Stat	P-value	Stat	P-value	Stat	P-value
Inverse chi-squared	2,839.09	0.00	3,365.14	0.00	4,052.00	0.00	4,158.90	0.00	6,395.97	0.00
Inverse normal	−48.22	0.00	−51.98	0.00	−59.30	0.00	−61.46	0.00	−75.75	0.00
Inverse logit *t*	−85.49	0.00	−95.23	0.00	−135.61	0.00	−149.51	0.00	−181.08	0.00
Modified inv chi-squared	145.72	0.00	162.88	0.00	237.44	0.00	263.04	0.00	318.36	0.00

[1] Based on Phillips–Perron tests. The null hypothesis is that all panels contain unit roots. The sample includes 57 countries over the period Oct 2015–Apr2022. Data winsorised at the 1st and 99th percentiles. [2] Country specific MSCI equity index price, in local currency. [3] Based on the country specific Datastream equity index, in local currency.

Sources: Baker et al (2016); CryptoCompare; Datastream; Refinitiv Eikon; Sensor Tower; authors' calculations.

Roots of the companion matrix Graph A2



Source: Baker et al (2016); CryptoCompare; Datastream; Refinitiv Eikon; Sensor Tower; authors' calculations.

PVAR Granger test[1] Table A3

Equation/ excluded	Δ Ln(monthly average daily active users)			Δ Ln(bitcoin price)			Δ Ln(MSCI equity index price)[2]			Δ Ln(stock market turnover)[3]			Δ Ln(global economic policy uncertainty index)		
	chi2	df	p-value	chi2	df	p-value	chi2	df	p-value	chi2	df	p-value	chi2	df	p-value
Δ Ln(monthly average daily active users)				32.92	1	**0.00**	17.93	1	0.00	0.34	1	0.559	73.00	1	0.00
Δ Ln(bitcoin price)	203.92	1	**0.00**				1.05	1	0.305	30.02	1	0.00	29.56	1	0.00
Δ Ln(MSCI equity index price)[2]	18.18	1	0.00	1.42	1	0.233			0.00	3.65	1	0.056	306.26	1	0.00
Δ Ln(stock market turnover)[3]	2.56	1	0.11	3.23	1	0.072	8.49	1	0.004				13.35	1	0.00
Δ Ln(global economic policy uncertainty index)	45.06	1	0.00	102.19	1	0.00	218.60	1	0.00	65.62	1	0.00			
All	265.49	4	0.00	152.65	4	0.00	241.96	4	0.00	136.84	4	0.00	368.16	4	0.00

The null hypothesis of the test is that the excluded variable does not Granger-cause the equation variable

[1] The sample includes 57 countries over the period Oct 2015–Apr2022. Data winsorised at the 1st and 99th percentiles. [2] Country specific MSCI equity index price, in local currency. [3] Based on the country specific Datastream equity index, in local currency.

Sources: Baker et al (2016); CryptoCompare; Datastream; Refinitiv Eikon; Sensor Tower; authors' calculations.

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PERSONAL FINANCE

Crypto is not the key to Black generational wealth

Cryptocurrency investing is more likely to widen the White-Black wealth divide, studies show

Advice by Michelle Singletary
Columnist

April 26, 2023 at 7:00 a.m. EDT

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The idea that cryptocurrency will make you rich is appealing.

But for many Black Americans, it's also being pitched as the answer to decades of financial disenfranchisement.

I've listened on Zoom calls and at seminars as promoters hawked the crypto revolution to Black folks, downplaying the risks of the deeply volatile asset. The industry has even co-opted luminaries like LeBron James, whose foundation partners with Crypto.com, to teach kids about cryptocurrency and the technology behind digital assets.

"Blockchain technology is revolutionizing our economy, sports and entertainment, the art world, and how we engage with one another," the NBA superstar said in a statement announcing the partnership with the LeBron James Family Foundation. "I want to ensure that communities like the one I come from are not left behind."

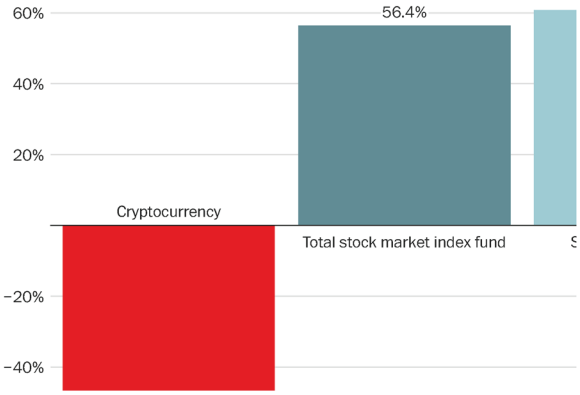
But cryptocurrency is so speculative that investors, especially financially vulnerable ones, are simply better off buying low-cost, no-frills stock index funds.

"Crypto investing is extremely high risk," Algernon Austin, director for Race and Economic Justice at the Center for Economic and Policy Research (CEPR), said during an interview about cryptocurrency investing and building Black wealth. "As an investment, it's closer to gambling."

Austin co-authored a report released earlier this year comparing crypto with index funds. When looking at a random sampling of 100 cryptocurrencies — all in the top 1,000 by market capitalization — Austin and his team found that the median cryptocurrency declined 46.6 percent from August 2017 to August 2022. But a total stock market index fund climbed 56.4 percent during that period, while an S&P 500 index fund surged 60.8 percent.

Index funds can outperform cryptocurrencies

Change in value, 2017-2022, of two stock market index funds and a typical cryptocurrency



Let's put that in dollar terms.

If someone had purchased $1,000 worth of a cryptocurrency from the top 1,000 currencies in 2017, it would have lost nearly half its value over the five-year span, the report showed. "In contrast, if someone had purchased $1,000 worth of a total stock market or S&P 500 index fund, it would have increased to about $1,600," the report said. "While it is possible to create significant wealth with cryptocurrencies very quickly, it appears to be more likely that someone will lose money investing in cryptocurrencies than will profit from it."

So, no, cryptocurrencies are not helping Black people build generational wealth.

Cryptocurrencies have outperformed index funds over shorter stretches of time, but the reward isn't worth the risk long term, Austin said. Early investors in bitcoin have seen large returns, but today's investors are buying high with stratospheric volatility.

Although an index fund doesn't guarantee profit — no investment does — it's less risky and more appropriate for most investors.

The data is clear, Austin said, citing research by economists at the Bank for International Settlements showing that three-quarters of investors in bitcoin, the largest crypto by market capitalization, have lost money.

"The volatile price of cryptocurrencies prevents them from becoming widely used as a means of payment," the researchers said in the 2022 working paper.

Here's another major problem for today's investors: Their timing is off.

In a recent Pew Research Center survey, 24 percent of Asian adults and 21 percent of Black or Hispanic adults say they have invested in or used a cryptocurrency, compared with just 14 percent of White adults. Overall, data shows 17 percent of U.S. adults fall into one of these categories.

But Pew found that Blacks are more likely than Whites to say they used cryptocurrency for the first time within the past year.

That's disturbing, given the turmoil in the industry. The price of a bitcoin has nosedived from a high of $68,000 in November 2021 to about $27,000 this week.

Investors may be thinking: "Great, I'll jump in now, buy low, and ride the wave up to wealth."

Except there's more to it than price.

There was the collapse of the celebrity-endorsed FTX cryptocurrency exchange. Sam Bankman-Fried, the FTX co-founder and chief executive, has been indicted on eight counts, including wire fraud and money laundering.

Crypto lenders Celsius Network and Voyager Digital filed for bankruptcy protection. Two major cryptocurrencies — TerraUSD and Luna — crashed, and Do Kwon, the founder of the digitals, has been charged with fraud.

Pew found that 45 percent of Americans reported their investment performed worse than expected, compared with 15 percent who said it outperformed.

Or, as Austin noted during our interview, just look at what JPMorgan Chase & Co. found when analyzing client data. Out of nearly 5 million checking account customers, more than 600,000 made transfers to crypto accounts.

It also found that lower-income investors were more likely to purchase digital currency at elevated prices than high-income individuals.

"Using bitcoin prices around the time of transfers to crypto accounts as a proxy for investment price, we find that lower-income households bought crypto at substantially higher prices," the report said.

And, of course, Blacks are overrepresented among the nation's low-income population, Austin pointed out.

Wealthier and more savvy investors in crypto, who are disproportionally White, have been able to get in and out at the right time. “The research suggests they’re profiting off lower-income investors,” he said.

Let’s recap.

Promote it, and they will come. It’s been the mantra for crypto champions, many of whom are creating wealth for themselves by selling to less sophisticated investors who are ill-equipped to recover from major losses.

“The industry spent all this money on advertisements and all these celebrities to attract many people,” Austin said. “Index funds don’t do that. You don’t have basketball players and celebrities like Matt Damon doing commercials about index funds.”

Damon and James appeared in commercials for crypto.com with the tagline “Fortune Favors the Brave.”

Do you know what’s brave?

Ignoring the feverish cryptocurrency flimflam — including from seemingly well-meaning Black influencers — in favor of historically proven low-cost index funds. Sustained wealth is rarely sexy and sensational. It’s most often achieved through patience and prudence.

FTX Investigation Summary
As of May 10, 2023

The Committee has been investigating the circumstances surrounding and leading up to FTX declaring bankruptcy in November 2022. Investigative steps taken to date include but are not limited to the following:

- Received nearly 1,500 pages of responsive documents from FTX.
- Received 232 pages of documents from the SEC.
- Contacted 24 potential witnesses for testimony.
- Requested 6 transcribed interviews with an additional 8 transcribed interviews soon to be requested.
- Interviewed 3 witnesses (transcribed and off-the-record) with a 4th witness scheduled in the coming weeks.
- Briefed by the SEC Division of Enforcement about the charging process and parallel investigations with the Department of Justice.
- Briefed by two outside auditors of financial statements for FTX and FTX US.
- Briefed by two outside contractors who worked with FTX.

AFR Americans for Financial Reform

House Committee on Financial Services
2129 Rayburn House Office Building
Washington, DC 20515

House Committee on Agriculture
1301 Longworth House Office Building
Washington, DC 20515

May 10, 2023

Dear Chairs McHenry and Thompson, Ranking Members Waters and Scott, Subcommittee Chairs Hill and Johnson, and Subcommittee Ranking Members Lynch and Caraveo,

We write today to provide a statement for the record for today's joint subcommittee hearing on digital assets entitled, "The Future of Digital Assets: Closing the Regulatory Gaps in the Digital Asset Ecosystem."

While we appreciate the efforts by both committees to create opportunities to discuss the need for robust regulatory oversight of and accountability for the crypto industry, we are concerned that the assumptions under-girding today's hearing are off target.

The resolution put before the committee today, "H. Res._____, Resolution Expressing Support for Blockchain Technology and Digital Assets," is a prime example; we would contest most of the assertions found within the resolution. In particular, those elements which assert that digital assets and blockchain will definitively be the building blocks of a new internet that improves lives, enhances transparency, and provide safeguards for consumers; that the SEC's current approach to crypto regulation is not 'fit for purpose'; and that Congress should enact a functional regulatory framework tailored to digital assets.

This rose-colored view of the digital asset industry and its purported potential stands in stark contrast to the reality of the industry today. It is a space where most activity is centered around speculative investment, using extractive business models, and one that is rife with criminal and predatory financial activity, with many players large and small facing enforcement actions and resisting compliance with basic financial regulatory requirements.

Many, perhaps most, consumers exposed to crypto have suffered losses.[1] Public skepticism of the industry is at its height. The industry struggles to highlight use cases that are viable and/or scalable, and consistently shifts the rationale for crypto as these use cases fail to launch. Meanwhile, actions by

[1] Raphael Auer, Giulio Cornelli, Sebastian Doerr, Jon Frost and Leonardo Gambacorta, Crypto Trading and Bitcoin Prices: Evidence from a New Database of Retail Adoption (Basel, BIS: 2022), accessed January 30, 2023, https://www.bis.org/publ/work1049.pdf.

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federal regulators[2] – using existing regulatory tools and frameworks – while not perfect, in large part helped protect many more investors and consumers, who would have been at risk had they failed to act.

Despite these realities, the resolution before the committee today represents unquestioning support for the industry's claims regarding innovation and barely considers whether its proposed regulatory structure will truly provide consumers with adequate protections and recourse.

We hope to provide more detailed analysis in the future on how existing regulatory frameworks can be applied to crypto asset markets and market participants. For the moment, we urge committee members to oppose the resolution being considered today. Additionally, we offer the following broad principles for crypto regulation and urge policymakers to use them as a starting point for future discussions on legislation that seeks to address regulatory oversight of the crypto industry.

Principles for Crypto Regulation

1) **There are widespread and systemic problems found throughout the crypto industry, which cannot be blamed on a few bad actors alone.**

The crypto industry claims that by deploying a blend of cryptography and distributed ledger technologies, tech firms can create and offer digital asset-based products and services to consumers with little or no reliance on either regulatory agencies or traditional financial institutions. The logic is that this use of these technologies to 'disrupt' the financial sector will bring new opportunities and benefits. On the investment side, crypto has been marketed as a tool for wealth creation that lowers the barriers to entry for individuals often marginalized by the traditional financial system. On the consumer side, the industry claims crypto can support payment and banking services that are faster, cheaper, more reliable, and more secure than existing systems.

The main problem with these claims is that they generally don't match the reality of crypto markets as they largely operate today. Instead, crypto markets are largely vehicles for speculative investment, appear rife with scams and fraud, reward and incentivize predatory business models, and due to lack of adequate regulation, many crypto market participants lack the basic types of consumer and investor protection measures found in traditional finance.

- The FBI's Internet Crime Complaint Center (IC3), which receives reports of internet crime and analyzes related data, found that in 2022 cryptocurrency-related investment fraud reported to the FBI amounted to $2.57 billion in 2022, an increase of a whopping 183% from the previous year ($907 million), and amounted to more than **two-thirds of all internet investment scam losses reported in 2022** (a total of $3.31 billion), and more than **one-fifth of all reported online fraud losses** ($10.3 billion).[3]
- Meanwhile, according to crypto market data analysis, consumers and investors lost the equivalent of **$7.8 billion dollars to cryptocurrency scams alone in 2021**, up 82% from 2020. This same data

[2] See, for example, a record of SEC enforcement actions in footnote 15 below; see also the Fed/OCC/FDCI January 2023 statement on crypto asset risks: https://www.occ.treas.gov/news-issuances/bulletins/2023/bulletin-2023-1.html
[3] https://www.ic3.gov/Media/PDF/AnnualReport/2022_IC3Report.pdf

reported that the equivalent of $3.2 billion in crypto assets were lost to theft in 2021, a staggering **516% increase** compared to 2020.[4] These figures have only increased in 2022.

- Furthermore, Americans reported a record $1 billion lost to cryptocurrency scams to the Federal Trade Commission (FTC) in 2021, which is 60 times higher than the amount lost in 2018. Per the data, crypto-related scams accounted **for one-quarter of all dollars lost to fraud reported to FTC during this period, more than any other type of scam.**[5]
- Finally, for the year 2021 the Better Business Bureau (BBB) ranked cryptocurrency scams as the second riskiest type of scam reported to the bureau. Although they only made up 1.9% of scams reported to the BBB, the median victim lost $1,200, and 66% of people targeted by this scam reported losing money.[6]

These numbers are shocking on their own, but even they don't tell the whole story. To begin with, each figure above is based largely on data gathered from individuals self-reporting their losses. Additionally, the FTC and other authorities estimate that **less than 10% of all fraud victims report scams to regulators**, **entities like the BBB or law enforcement**.[7] Thus, we may vastly underestimate how much consumers and investors actually lose each year to crypto-related scams and fraud.

Furthermore, crypto can be employed in scams or fraud in several ways. It can serve as the means of payment for another crime (such as ransomware attacks), as an asset that is itself stolen (through hacks or physical theft of cold wallets), as a ruse for an related affinity fraud (such as romance scams), or as the core feature of a fraud scheme (e.g., such those investors who had assets in custody with FTX, only to find their deposits allegedly stolen by the platform's operators). These overlapping schemes, fueled by crypto's unique attributes (such as pseudonymity, wash trading, etc.) as well as lack of adequate regulatory oversight, suggest the footprint of harm is even larger than these figures indicate.

Lastly, these figures do not fully capture the loss of crypto assets through crypto's infamous volatility, instability, and significant market failures. We have some indication of the volume of that loss: at its height in early 2022, the market capitalization of crypto markets was estimated to be more than $3 trillion in value. Subsequent losses in value tied to the failure of Terra, Celsius, Voyager, FTX, crypto hedge fund 3AC and other crypto platforms are estimated to be more than $2 trillion.[8] And, the failure of additional firms this year seems likely as well.

Anyone not inundated with marketing and lobbying efforts by the crypto industry should see the examples above as a small illustration of the industry's thirteen-year track record – one which has done much more harm than good – and should begin with that takeaway in mind when crafting policy responses.

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[4] https://go.chainalysis.com/2022-Crypto-Crime-Report.html
[5] https://www.ftc.gov/news-events/data-visualizations/data-spotlight/2022/06/reports-show-scammers-cashing-crypto-craze
[6] https://bbbfoundation.images.worldnow.com/library/259c7333-0fb3-4bc0-a059-4b116594c473.pdf
[7] *Ibid.*
[8] https://www.cnbc.com/2022/12/23/bitcoin-lost-over-60-percent-of-its-value-in-2022.html. Note: estimates of crypto market values, market capitalization, etc., vary and are not well defined.

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2) Congress should prioritize protecting consumers, investors, communities, and financial stability over promises of innovation from a technology that has yet to deliver on its promises, or provide lasting, widespread, scalable use cases.

Much has been made of Americans' interest in cryptocurrency. An NBC News poll from March 2022 found that one in five adults in America report having invested in, traded, or used cryptocurrency. and Subsequent polls have also captured similar figures, often noting that African American or Latinx consumers report having engaged in the crypto markets in numbers greater than their white counterparts.[9]

Yet, a poll conducted just months later by Pew Research Center in August 2022 showed that 46% of poll respondents reported their crypto investments performed worse than they expected – and this was before collapse of FTX and other platforms.[10] For example, one market research firm estimated that an investor that bought $1,000 worth of Bitcoin (BTC) just after the flurry crypto related Super Bowl ads in February 2022 would own $513.22 worth of BTC a year later – a loss of 48.7%.[11] Recent price increases in BTC notwithstanding, this example underscores the volatility and risk involved in crypto investing – risk that traditionally wealthy investors might be able to weather, but which is borne much harder by investors with low income and/or are from communities of color--who are more likely to lack wealth or other resources to absorb such losses.

Moreover, crypto platforms have largely failed to demonstrate lasting value in the payments space. Most crypto activity is focused on speculative investment activities. Crypto-derived payment platforms have struggled to demonstrate viable mainstream use. Stablecoins, which were initially created with the intention of being used to facilitate crypto payments outside crypto platforms, are still largely used for speculative investment, and rely on fiat currency and legacy financial institutions to facilitate off-chain transactions for goods and services. Stablecoins have also demonstrated real fragility; famously, in the case of the collapse of Terra, the algorithmic stablecoin whose collapse (and likely fraud) precipitated the larger collapse of crypto markets beginning in May 2022. But even stablecoins perceived as more 'stable' such as Circle and Tether have faced so-called 'de-pegging' events, which at a minimum suggest stablecoins operate more in a manner like loosely regulated money market funds than as an actual "currency" or "bank deposits."

Meanwhile, crypto platforms themselves often charge high fees for buying, selling, or exchanging crypto on or off platforms. The famed speed of cryptocurrency's clearing and settling abilities is belied by the fact that the consensus mechanisms used to verify blockchain transactions are infamously slow – processing a very small number of transactions per second, especially in comparison to existing

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[9] https://www.cnbc.com/2022/03/31/cryptocurrency-news-21percent-of-adults-have-traded-or-used-crypto-nbc-poll-shows.html

[10] https://www.pewresearch.org/fact-tank/2022/08/23/46-of-americans-who-have-invested-in-cryptocurrency-say-its-done-worse-than-expected/

[11] https://www.benzinga.com/markets/cryptocurrency/23/02/30880044/if-you-invested-1-000-in-bitcoin-after-super-bowl-lvi-aka-the-crypto-bowl-heres-how-much-y

payments systems, which can process tens thousands of transactions per second.[12] Attempts to speed up these processes – by creating extra layers of code on top of an existing blockchain, or by creating off-chain software solutions – create significant security risks for individuals engaging in such transactions, and also defeat the purpose of using the blockchain's 'immutable' properties to provide security for such transactions.[13]

Blockchain proponents often argue that the technology is still in the "early days" of its development. This claim is used either offensively – to suggest that the technology offers significant unrealized potential benefits that will emerge soon – or defensively, to explain why the consistent failures of blockchain-based technology are not indicative of its enduring limitations but constitute "growing pains" that are a natural and necessary phase in the technology's development.

A well-known essay by Molly White, a software programmer and noted critic of crypto assets and blockchain, entitled, "It's not still the early days" lays out the basics of a rebuttal to this argument.[14] In summary, White points out that Bitcoin was launched in 2009; Ethereum in 2015. Many first generation and second generation blockchain applications are anywhere from 7-13 years old. During that same time range, numerous other technological products, and platforms (some new, some established) have been further developed and have demonstrated utility, scalability, and viability more rapidly. These products include major social media platforms, online ride-sharing apps and platforms, new computer processors, new database programs, programming languages, operating systems, payment apps, and more.

Given the degree of doubt and uncertainty regarding the use case of crypto as illustrated here, policymakers should not pursue policy proposals that elevate dubious claims regarding financial innovation at the expense of consumer and sound consumer protection.

3) Policy makers should take a tech agnostic stance on crypto regulation, not pursue deregulatory carve-outs in favor of an industry that hasn't delivered on its promise of innovation.

Fintech firms – not just crypto – often claim that the new technological innovations they offer require a soft touch from regulatory agencies to avoid stifling these new supposedly transformative offerings. Yet, in the experience of consumer advocacy organizations like AFR, the innovation that is being offered by these firms is all too often a form of regulatory arbitrage, rather than a product that offers meaningful benefit to consumers.

As such, we believe policymakers should treat regulation of crypto assets, actors, and activities as they would other regulated entities in the financial services sector. They should not create new, carved-out regulatory frameworks for crypto based on dubious industry claims that current rules aren't 'fit for purpose.'

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[12] https://crypto.com/university/blockchain-scalability#:~:text=The%20Transaction%20Speed%20of%20Cryptocurrencies&text=While%20Visa%20can%20process%20up,capability%20to%20achieve%20mass%20adoption.
[13] https://coingeek.com/the-unsecure-lightning-network-as-btc-layer-2-scaling-protocol/#:~:text=Inefficiency%20and%20noncompliance%20with%20the,is%20the%20pretense%20and%20untruth.
[14] https://blog.mollywhite.net/its-not-still-the-early-days/

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Real innovation benefits from sound and robust regulatory standards, which rewards innovators who can meet such standards. Private sector firms have a role in producing products and services they believe can provide real value while generating returns for firms and investors. Regulators have a different role: ensuring that such firms, products, and services operate in a way that avoids harming consumers, investors, communities, and markets while providing real and lasting benefits to the same.

4) **Congress should bolster regulators' existing authority and capacity to oversee the digital assets industry, instead of pointing fingers. Any new policy efforts should first 'do no harm' to existing regulatory frameworks by creating loopholes or undermining regulators' existing authorities.**

Traditional financial regulatory frameworks require a set of minimum standards and protections for firms to operate. On the investing side, exchanges, broker-dealers, and issuers of securities must register with regulators and provide significant information about the nature of their business or product offering, managerial structure and composition, financial statements, potential conflicts of interest, and more. Once registered, these actors must provide disclosures on an ongoing basis to investors and regulators and must abide by a host of anti-fraud and market manipulation rules, as well as rules intended to ensure that such actors are operating in the best interests of their clients – such as fiduciary duty or best execution rules. Often, such standards require firms to disaggregate their operations to avoid perpetuating conflicts of interest and mitigate the possibility of insider trading or front running.

On the banking and payments side, banking and consumer financial protection rules require a host of regulatory measures, prudential supervision and examinations, anti-money laundering compliance standards, capital requirements, fair lending disclosures and policies, payment dispute resolution requirements, and many other measures that ensure the companies and actors in this space have some minimum standard of oversight and that depositors have both protections and recourse should plans go awry.

None of these regimes are perfect; regulators can still fail to adequately enforce these standards and bad actors are still able to skirt, evade or undermine them. However, they represent over a century of lessons learned from past financial crises and schemes and serve as a reliable means of preventing financial risk and harm and protecting consumers, investors, and markets when such harm occurs.

Unfortunately, little of the crypto industry is currently held to or meets even these standards. Most crypto firms register at the state level under money transmitter or money service business licensing regimes that, with some exceptions, usually do not offer the same level of consumer and investor protections as outlined above. Many crypto platforms are structured such that their services are aggregated, with the platforms providing their clients asset custody services, brokering, market making, and more – conditions which all too often can lead to exchanges misusing or abusing these overlapping roles to benefit at their clients' expense. Crypto firms have shown difficulty in providing safe and secure custody of their client's assets. These assets are generally not protected by either deposit insurance programs or securities investor protection programs.

Additionally, many firms have failed to segregate such assets to protect them in the event of insolvency. As a result, many of the clients of firms such as Celsius, Voyager and FTX are all ensnared in lengthy and complex bankruptcy proceedings, waiting in the back of the line behind other creditors with little hope

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of reclaiming the full value of their assets. Meanwhile, stablecoin issuers who claim that the coins they issue are fully collateralized, redeemable in full on demand, have often either failed to meet these standards or have operated under a cloud of questions and uncertainty about the quality and quantity of their collateral and their ability to honor on-demand redemption agreements.

In response to this litany of basic failures, federal regulators (as well as some state regulators) have taken a number of recent actions to respond to the crypto crash and draw bright lines regarding the risks that crypto assets pose to consumers and investors. In January 2023, the Fed, OCC and FDIC issued a "Joint Statement on Crypto-Asset Risks to Banking Organizations."[15] The statement laid out in clear detail how the unique properties and risks posed by crypto assets may be incompatible with the safety and soundness standards banking institutions must meet. Meanwhile, the Securities and Exchange Commission, after making many public statements indicating their clear view that most crypto assets are securities and those offering them should seek registration with the SEC, has ramped up enforcement of traditional securities laws. The SEC's legal track record in this regard is sound – as of January 18, 2023, the SEC has brought 127 crypto-related enforcement actions without losing a single case.[16]

There are many other examples, but the pattern is clear – existing banking, securities and consumer protection regulations are relevant to crypto assets, activities, and actors, and should be applied consistently and robustly to provide consumers and investors with comparable levels of protection. These requirements are not sophisticated, esoteric regulatory mandates – they are bedrock elements of financial regulation. As the mantra goes, financial firms offering the same types of services or activities, with the same risks, should be subject to the same rules and same supervision.

Accordingly, policymakers should defend the regulatory tools, frameworks and authorities that currently exist and are best suited to provide consumers and investors with appropriate protections. They should avoid policy proposals that undermine existing regulatory frameworks for financial actors and markets and put all of us at greater risk.

We hope the principles and supporting content shared here can contribute to a reset or at the very least help refocus the objectives of these Committees' policy discussions towards proposals that will build upon the existing tools and methods regulators have to protect consumers, investors, markets and communities. We would be happy to discuss how best to do this in greater detail with members of the Committee and their staff as well.

Thank you.

Mark Hays
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[15] https://www.fdic.gov/news/press-releases/2023/pr23002a.pdf
[16] Cornerstone Research, "SEC Tightens Cryptocurrency Enforcement," January 18, 2023, https://www.cornerstone.com/insights/press-releases/sec-tightens-cryptocurrency-enforcement/; John Reed Stark, "Why 'SEC Regulation by Enforcement' is a Bogus Big Crypto Catchphrase," LinkedIn, January 23, 2023. https://www.linkedin.com/pulse/why-sec-regulation-enforcement-bogus-big-crypto-john-reed-stark/?published=t.

Questions for the Record from Ranking Member Maxine Waters
Subcommittee Hearing, entitled "The Future of Digital Assets: Measuring the Regulatory Gaps in the Digital Asset Markets"
Wednesday, May 10, 2023 9:30am

Mr. Matthew Kulkin

1. Which of the following options best describes your self-identified race? (you may choose more than one)
    a. White or Caucasian
    b. Black or African American
    c. Hispanic/Latinx
    d. Asian
    e. Middle Eastern/North African
    f. Choose not to answer
2. Which of the following options best describes your gender identity?
    a. Woman
    b. Man
    c. Non-binary
    d. Transgender Man
    e. Transgender Woman
    f. Choose not to answer
    g. Prefer to self-describe (please specify)

Mr. Marco Santori

1. Which of the following options best describes your self-identified race? (you may choose more than one)
    a. White or Caucasian
    b. Black or African American
    c. Hispanic/Latinx
    d. Asian
    e. Middle Eastern/North African
    f. Choose not to answer

- Prefer to self-describe (please specify) Answer: American of Italian descent.

2. Which of the following options best describes your gender identity?
    a. Woman
    b. Man
    c. Non-binary
    d. Transgender Man
    e. Transgender Woman
    f. Choose not to answer
    g. Prefer to self-describe (please specify)

Mr. Daniel Schoenberger

1. Which of the following options best describes your self-identified race? (you may choose more than one)
    a. White or Caucasian
    b. Black or African American
    c. Hispanic/Latinx
    d. Asian
    e. Middle Eastern/North African
    f. Choose not to answer
    g. Prefer to self-describe (please specify)
2. Which of the following options best describes your gender identity?
    a. Woman
    b. Man
    c. Non-binary
    d. Transgender Man
    e. Transgender Woman
    f. Choose not to answer
    g. Prefer to self-describe (please specify)

Mr. Timothy Massad

1. Which of the following options best describes your self-identified race? (you may choose more than one)
    a. White or Caucasian
    b. Black or African American
    c. Hispanic/Latinx
    d. Asian
    e. Middle Eastern/North African
    f. Choose not to answer
    g. Prefer to self-describe (please specify)
2. Which of the following options best describes your gender identity?
    a. Woman
    b. Man
    c. Non-binary
    d. Transgender Man
    e. Transgender Woman
    f. Choose not to answer
    g. Prefer to self-describe (please specify)

Mr. Michael Blaugrund

1. Which of the following options best describes your self-identified race? (you may choose more than one)
    a. White or Caucasian
    b. Black or African American
    c. Hispanic/Latinx
    d. Asian
    e. Middle Eastern/North African
    f. Choose not to answer
    g. Prefer to self-describe (please specify)
2. Which of the following options best describes your gender identity?
    a. Woman
    b. Man
    c. Non-binary
    d. Transgender Man
    e. Transgender Woman
    f. Choose not to answer
    g. Prefer to self-describe (please specify)